

KP-3500

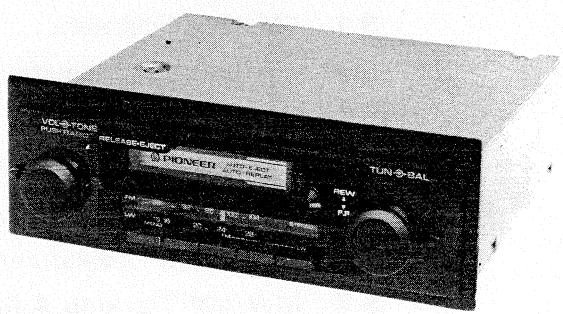
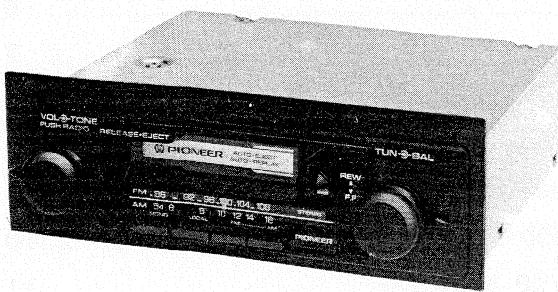
U, E

KP-3800

E

CASSETTE CAR STEREO
WITH AM/FM-STEREOCASSETTE CAR STEREO
WITH LW/MW/FM-STEREO

SERVICE MANUAL



Subject: For Cassette Mechanism, refer to the Service Manual of
Model KP-8000 or KP-5000.

SPECIFICATIONS

General

Power source	DC 13.8V (11~16V allowable)
Grounding system	Negative type
Power output (max.)	6W + 6W (continuous) 5W + 5W
Load impedance	4Ω (2 ~ 8Ω allowable)
Max. current consumption	1.2A
Dimensions (W × H × D)	180 × 50 × 150 mm (7-1/8 × 2 × 5-7/8 in.)
Nose size (W × H × D)	105 × 42 × 16 mm (4-1/8 × 1-5/8 × 5/8 in.)
Shaft interval	130 mm (5-1/8 in.)
Weight	1.9 kg (4.2 lbs.)

Tape player

Tape	Compact cassette tape (C-30~C-90)
Tape speed	4.76 cm/sec. (+0.19 cm/sec.) (-0.05 cm/sec.)
Fast forward time	Within 100 sec. for C-60
Rewind time	Within 100 sec. for C-60
Wow & flutter	No more than 0.28% (WRMS)
Frequency response	50~12,000 Hz
Cross talk	More than 40 dB
Signal-to-noise ratio	More than 45 dB

FM tuner

Frequency range	88~108 MHz (KP-3500/U, E) 88~104 MHz (KP-3800/E)
Usable sensitivity	20.8 dBf (3 μV/75Ω) (KP-3500/U) 22.8 dBf (5.2 μV/150Ω) (KP-3500/E, KP-3800/E)

50 dB quieting sensitivity

.....	23.2 dBf (4 μV/75Ω, mono) (KP-3500/U) 25.2 dBf (7.0 μV/150Ω, mono) (KP-3500/E, KP-3800/E)
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Signal-to-noise ratio	60 dB
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Capture ratio	4 dB
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Selectivity	50 dB (±400 kHz)
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Image rejection	44 dB
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IF rejection	62 dB
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Distortion	0.8% (at 65 dBf, 400 Hz, mono) 1% (at 65 dBf, 1 kHz, stereo)
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Frequency response	50~10,000 Hz
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Stereo separation	30 dB (at 65 dBf, 1 kHz)
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MW (AM) tuner

Frequency range	525~1,605 kHz
Sensitivity	25 μV
Selectivity	25 dB (±10 kHz)
Local/distant switch effect	17 dB attenuation
Max. input signal (distortion 5%)	130 dB

LW tuner (KP-3800/E only)

Frequency range	150~280 kHz
Sensitivity	180 μV
Selectivity	25 dB (±10 kHz)
Local/distant switch effect	17 dB attenuation
Max. input signal (distortion 5%)	130 dB

Note:

Specifications and the design subject to possible modification without notice due to improvements.

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1. PARTS LOCATION

● Top View

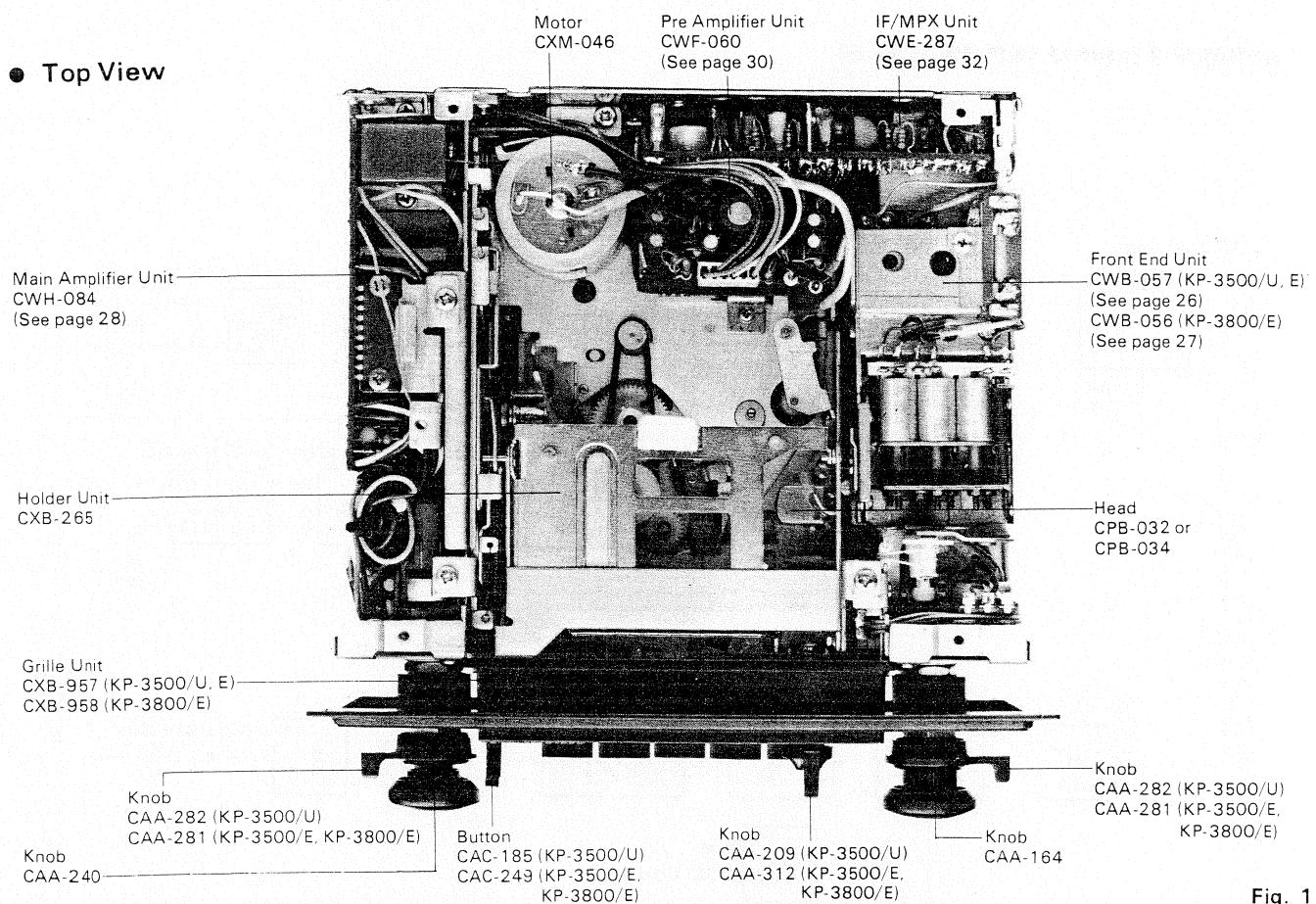


Fig. 1

● Bottom View

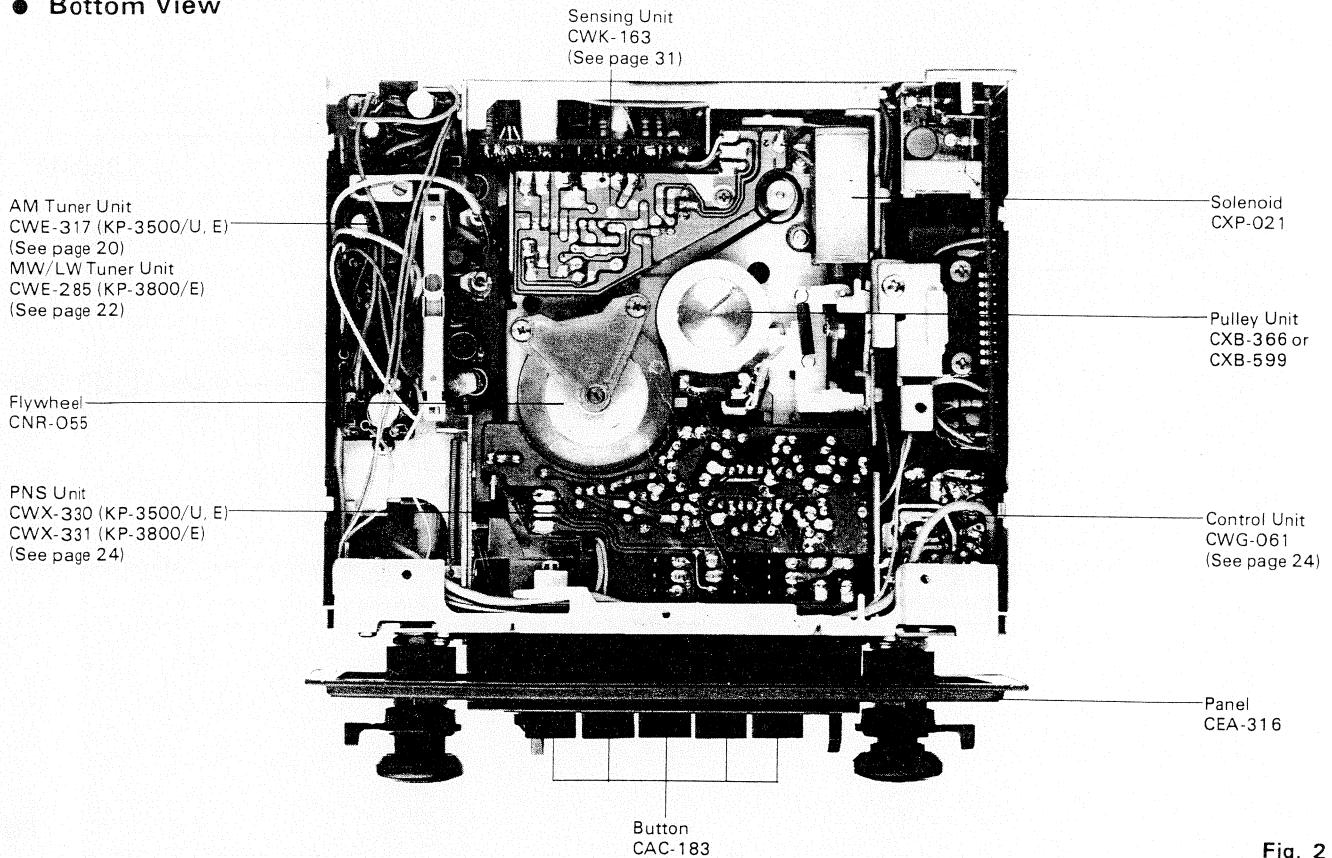


Fig. 2

2. CIRCUIT DESCRIPTION

- Block Diagram (KP-3500/U, E)

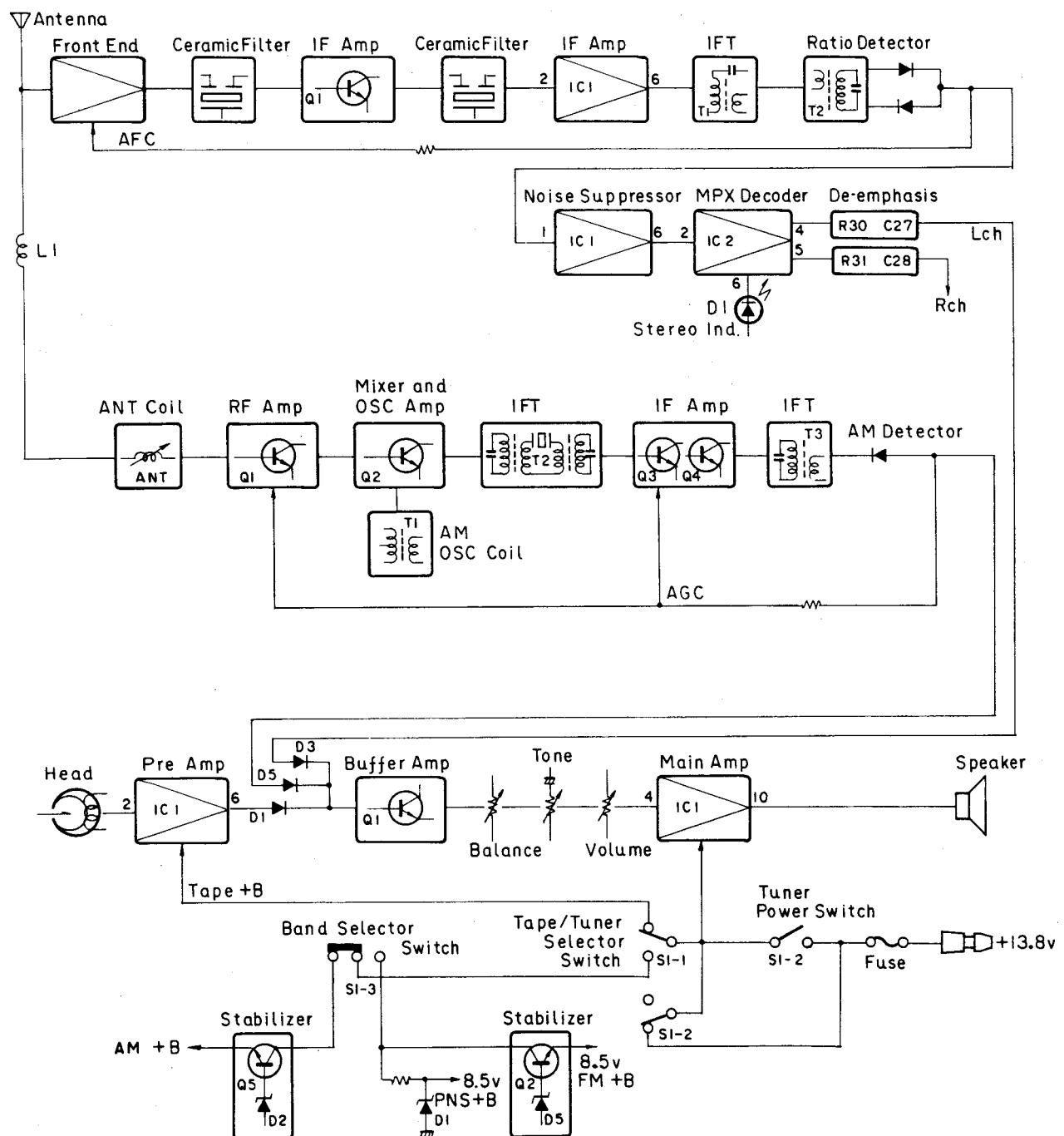


Fig. 3

CIRCUIT DESCRIPTION

● Block Diagram (KP-3800/E)

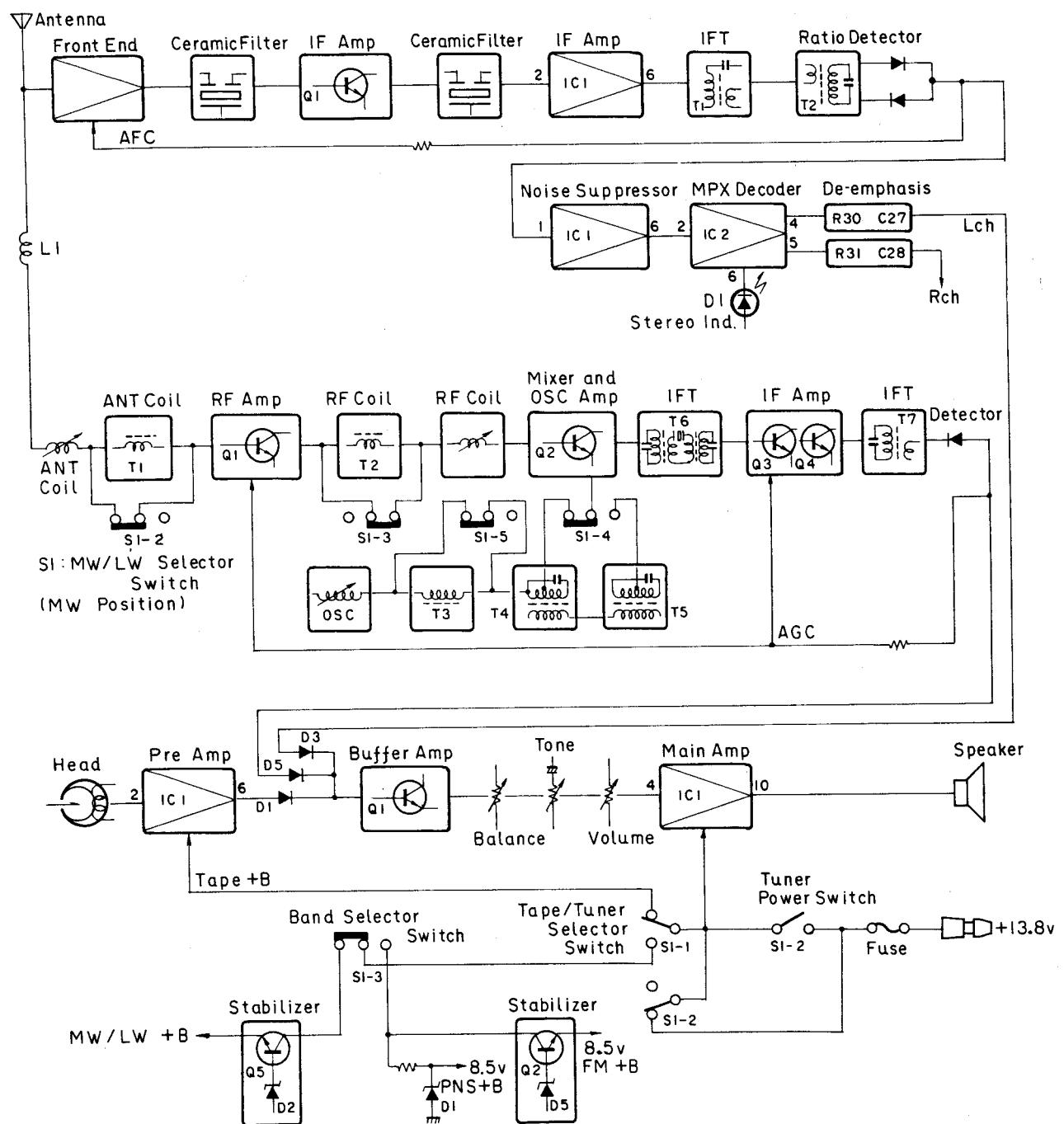


Fig. 4

CIRCUIT DESCRIPTION

● Level Diagram

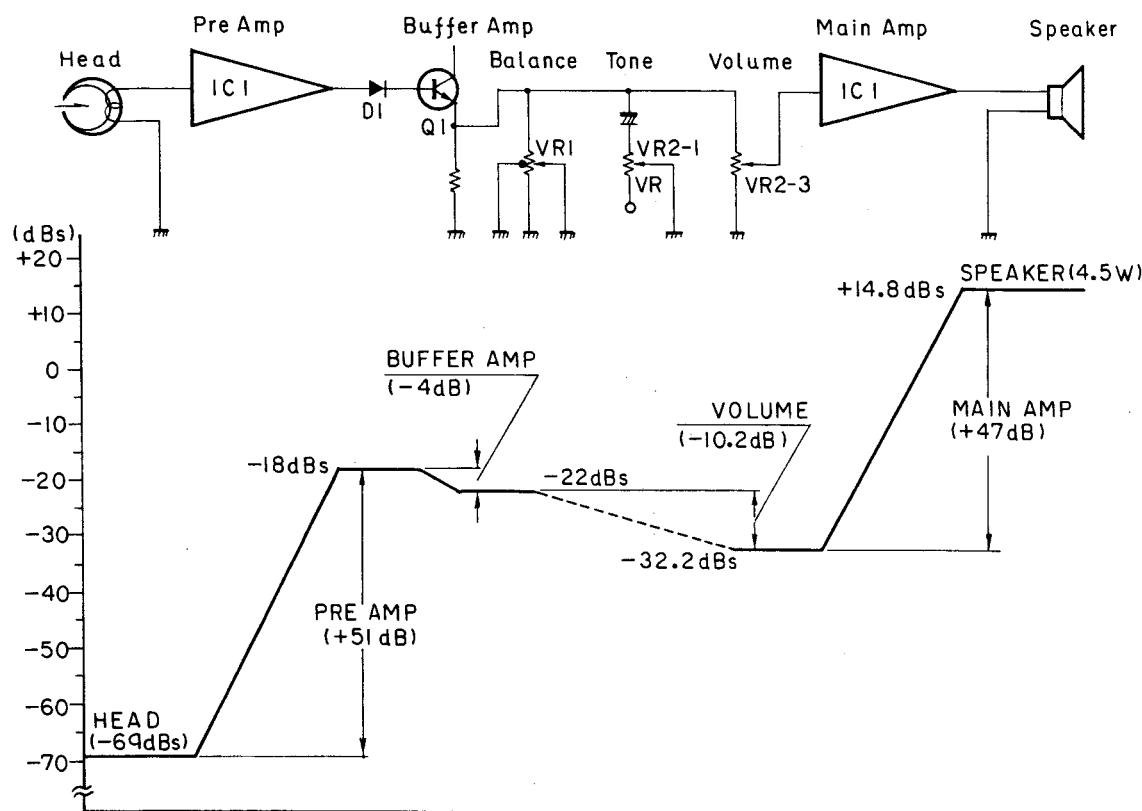


Fig. 5

● IF/MPX Unit

Two ceramic filters, Q1 (2SC1675) and IC1 (μ PC577H) are used for the input power of the IF amplifier. D3, D4 (1S188), T1 and T2 are used for the output power of the IF amplifier, and ratio detection is performed. The detected signal is given to No. 2 terminal of MPX IC (LA3350P), and

when the pilot signal enters through the actuation of PLL, the output signal is separated and the stereo indicator is lit. R30, 31, C27 and 28 are connected as the load of Nos. 4 and 5 terminals, and it determines the de-emphasis.

CIRCUIT DESCRIPTION

● Noise Suppressor

The input signal containing the pulsive noise as illustrated in Waveform-1 is first impedance converted by the buffer amplifier, then coupled to the gate circuit via the low-pass filter.

Meanwhile, the high-pass filter filters out only the pulsive noise component from the input signal and feeds the noise component to the noise detector where it is amplified and rectified. (See Waveform-2.)

To cope with weak-signal noise, the noise detector is supported with the AGC (Automatic Gain Control) circuit. The noise component from the noise detector output is waveform-shaped by the mono-stable multivibrator. (See

Waveform-3.) The output from the mono-stable multivibrator then couples to the gate circuit as a control-pulse array which is used to cut out only the pulsive noise component from the audio signal.

The memory provided at where holds the audio signal level constant while the gate circuit is "closed".

The 19 kHz pilot-hold circuit serves to prevent stereo pilot-signal intermission.

The audio signal then sustains high-frequency-phase compensation to compensate for the phase shift due to the low-pass filter, then is coupled to the output terminal.

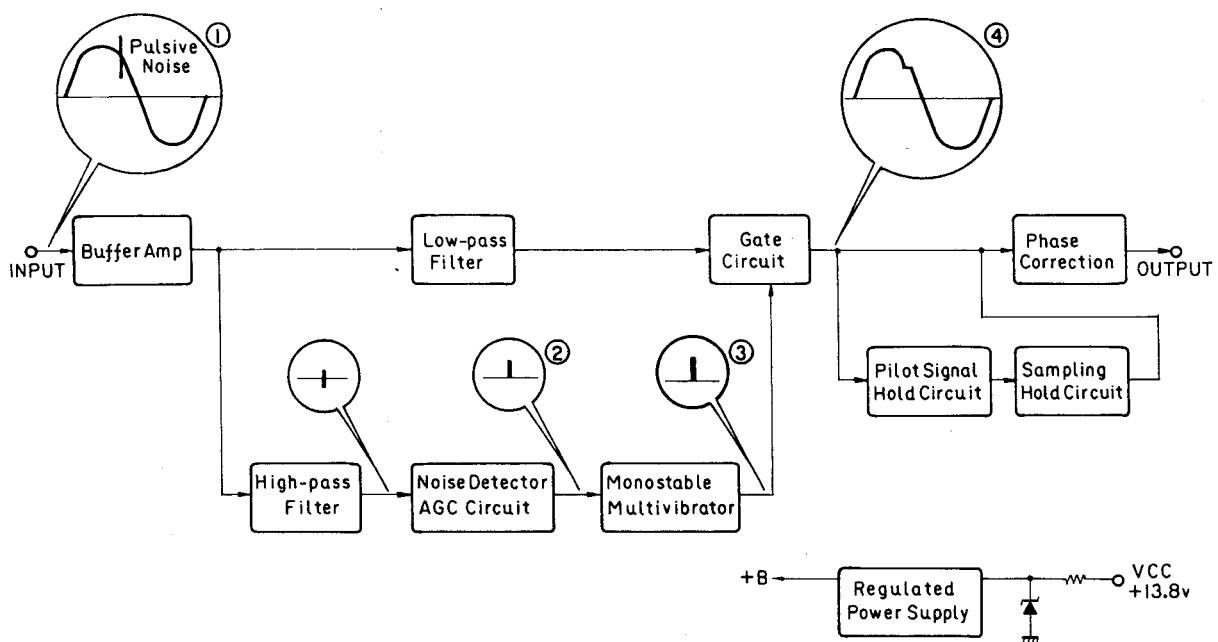


Fig. 6

3. ADJUSTMENT

3.1 FM IF ADJUSTMENT

- Connection Diagram

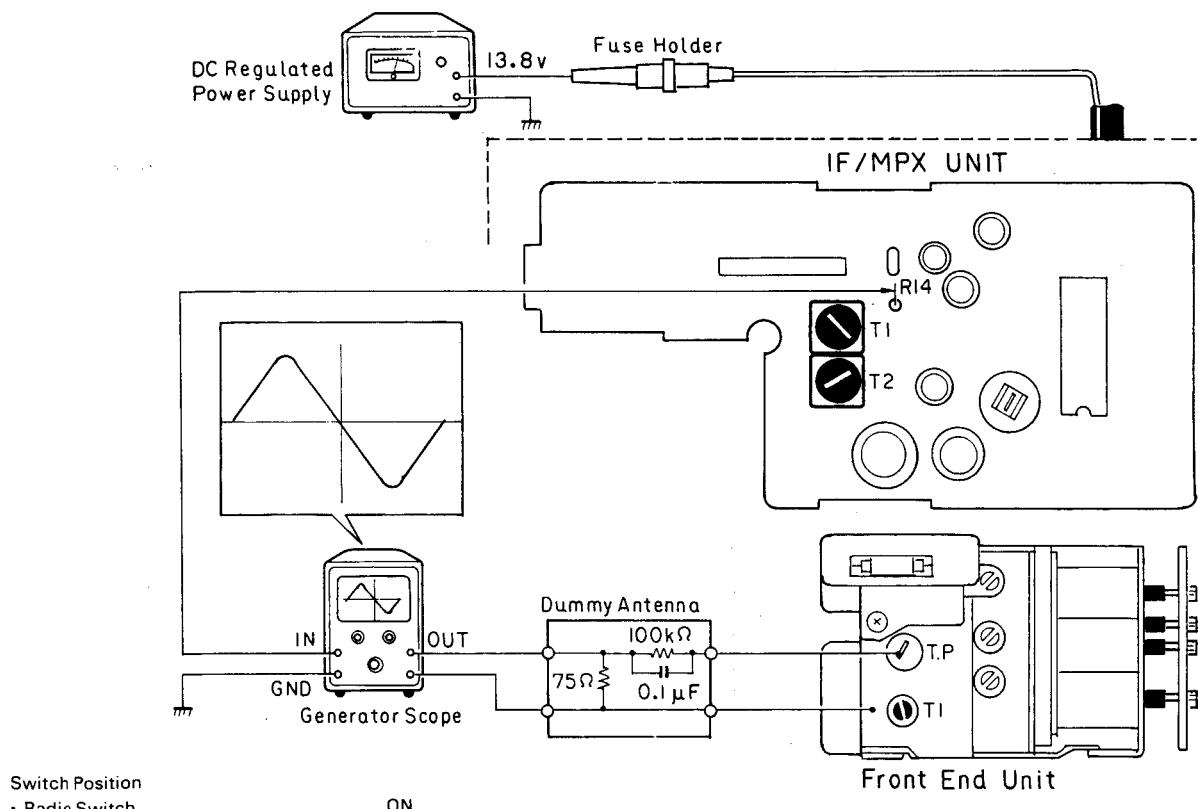


Fig. 7

- To Adjust

1. Set Generator Scope as follows:

Frequency centering on sweep.....	455 kHz
Input level.....	0.3 Vp-p/cm
Output level.....	3 mV ~ 10 mV
2. Set DC regulated power supply to 13.8V.
3. A waveform shown in Fig. 7 is obtained on the generator scope when the hook-up is made as illustrated above and the power source is applied to.
4. Adjust the cores of T1 (yellow) and T2 (blue) so that maximum amplitude and optimum linearity are obtained.

NOTE:

The 10.7 MHz marker need not be center positioned on the waveform.

ADJUSTMENT

3.2 FM TRACKING ADJUSTMENT

● Connection Diagram

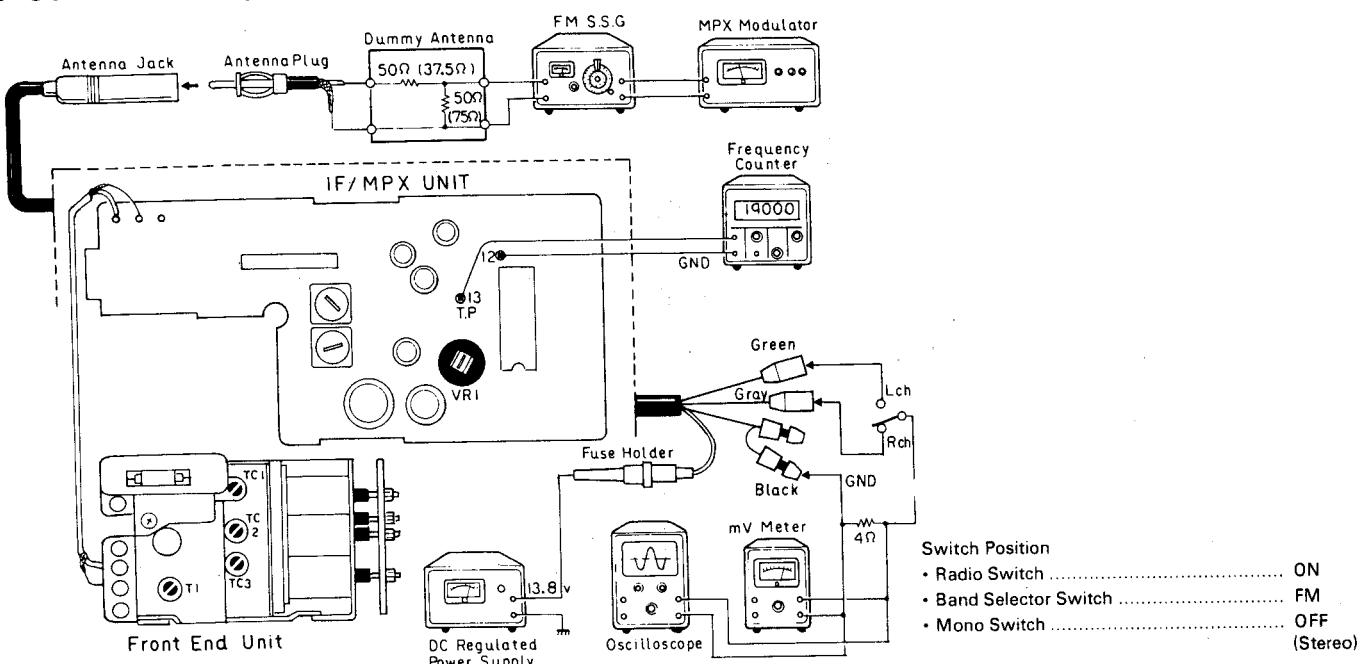


Fig. 8

● To Adjust

In case of KP-3500/U, E

SSG Frequency	Pointer Position	Adjustment Point	Note
1. 87.5 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Minimum	TC3	87.5 MHz can be received
2. 108.5 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Maximum		Check if 108.5 MHz can be received
3. 98 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Tuned position	TC1, TC2	Maximum output

In case of KP-3800/E

SSG Frequency	Pointer Position	Adjustment Point	Note
1. 87.5 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Minimum	TC3	87.5 MHz can be received
2. 104.5 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Maximum		Check if 104.5 MHz can be received
3. 98 MHz (400 Hz, 100% modulation), output level 22 dB (μ V)	Tuned position	TC1, TC2	Maximum output

3.3 1F/MPX ADJUSTMENT

● Connection Diagram (Shown in Fig. 8.)

● To Adjust

- Obtain non-modulation signal by setting SSG output at 60 dB (μ V). Adjust VR1 so that the frequency counter indicates 19 kHz \pm 30 Hz.
- Obtain stereo modulation signal by setting SSG output at 60 dB (μ V). Adjust VR2 to secure maximum separation.

ADJUSTMENT

3.4 AM IF ADJUSTMENT (KP-3500/U, E)

● Connection Diagram

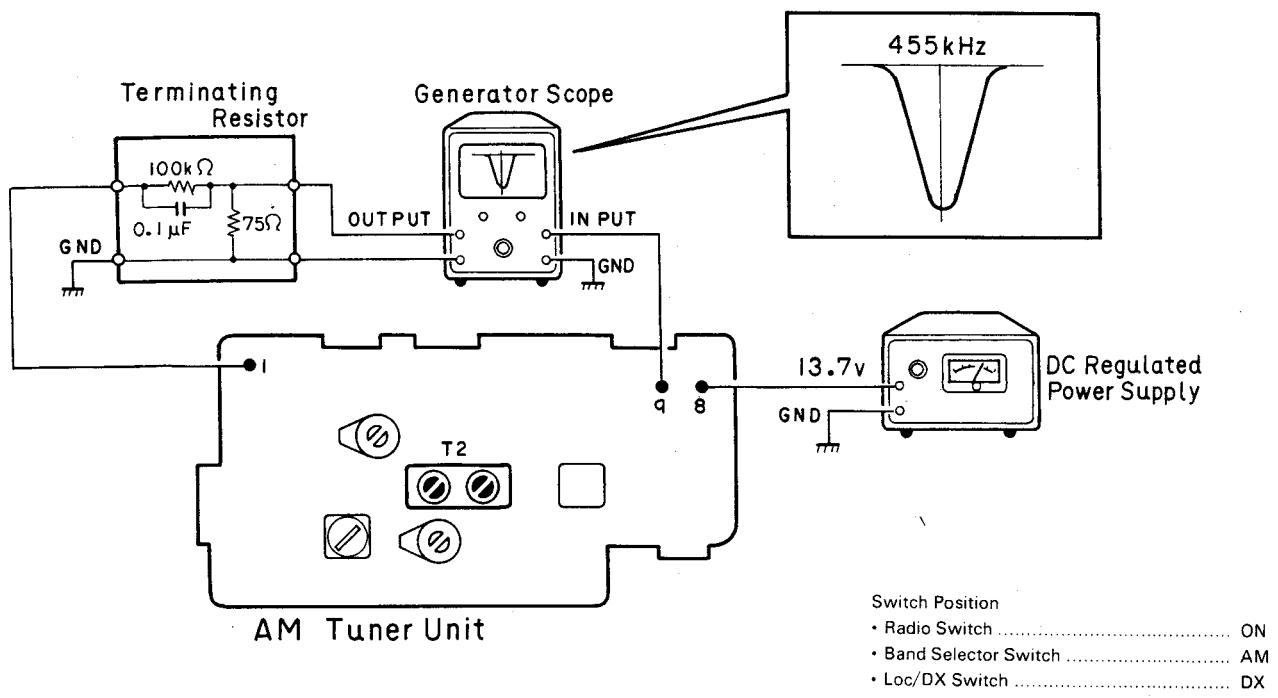


Fig. 9

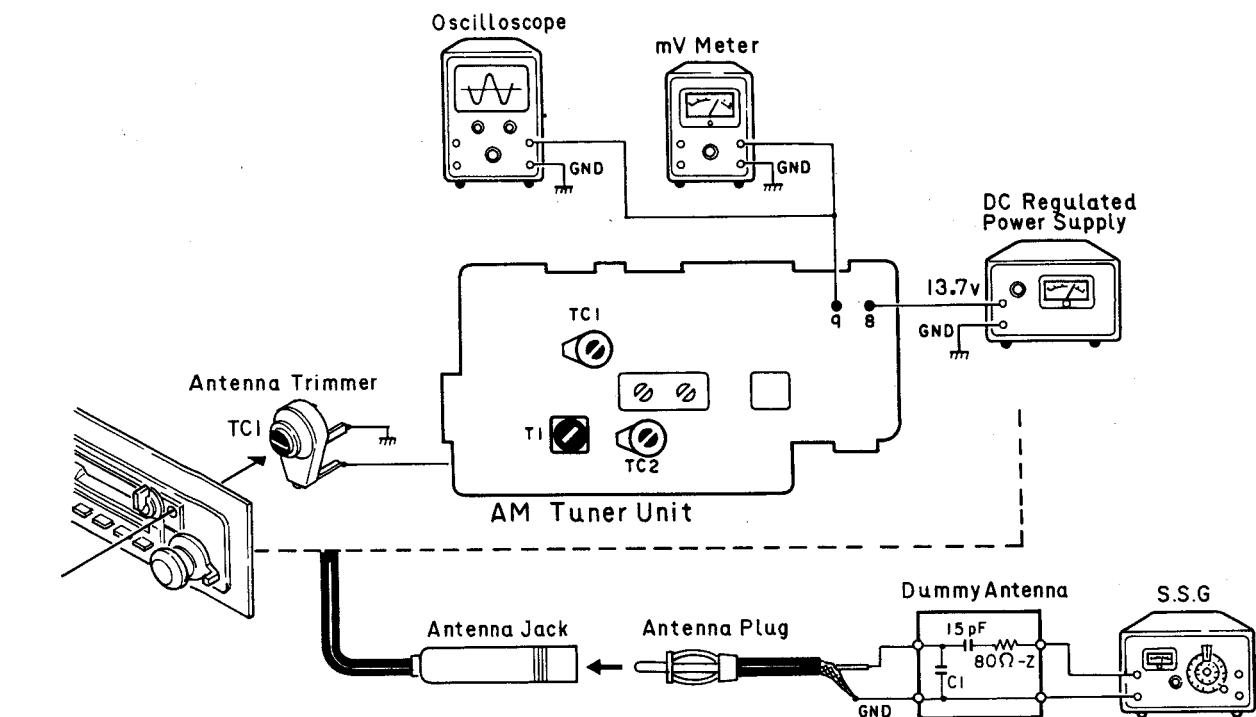
● To Adjust

- Set Generator Scope as follows:
 - Frequency centering on sweep..... 455 kHz
 - Input level..... 0.3 Vp-p/cm
 - Output level 3 mV ~ 10 mV
- Turn the cores (red and blue) of T2 and adjust so that U-curve will be at maximum amplitude and best symmetry.

ADJUSTMENT

3.5 AM TRACKING ADJUSTMENT (KP-3500/U, E)

- Connection Diagram



Switch Position

- Radio Switch ON
- Band Selector Switch AM
- Loc/DX Switch DX

NOTICE:

Select C1 so that total capacity of 80 pF is attained from the direction of the receiver jack.

Z: Output impedance of the S.S.G.

Fig. 10

- To Adjust

SSG Frequency	Pointer Position	Adjustment Point	Note
1. 520 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Minimum	T1	520 kHz can be received
2. 1,660 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Maximum	TC2	1,660 kHz can be received
3. Repeat (1) and (2) alternately and adjust so that broadcast can be received at the frequency between 520 kHz and 1,660 kHz.			
4. 1,000 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Tune to 1,000 kHz	TC1, antenna trimmer (TC1)	mV Meter at maximum

ADJUSTMENT

3.6 MW/LW IF ADJUSTMENT (KP-3800/E)

- Connection Diagram

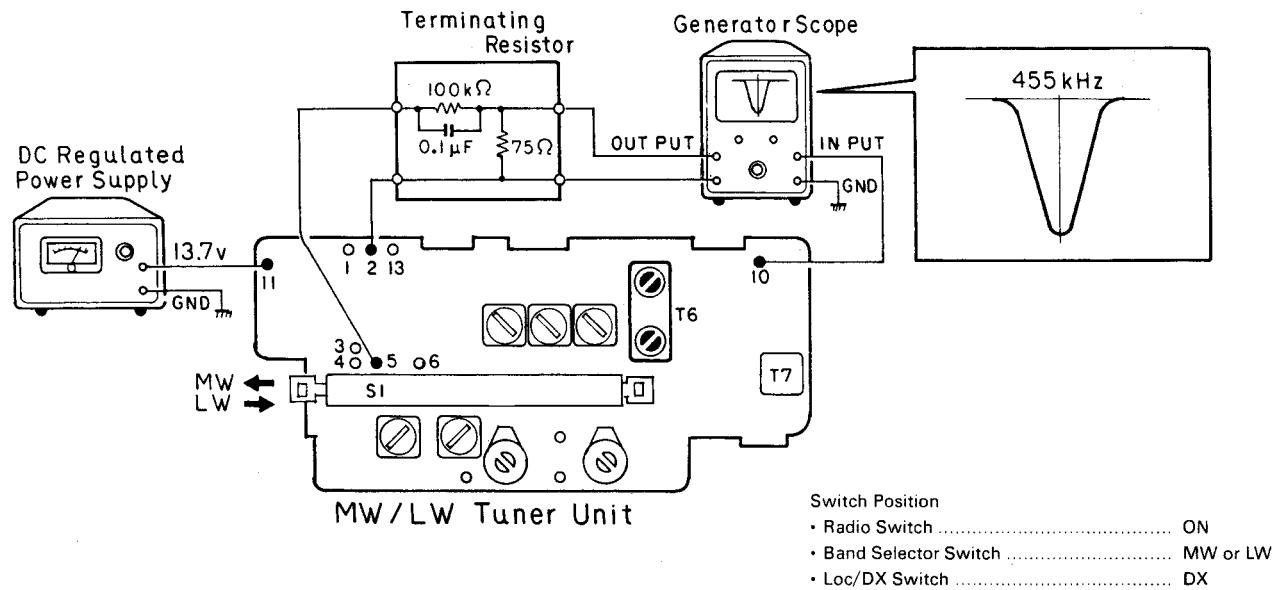


Fig. 11

- To Adjust

1. Set Generator Scope as follows:
 Frequency centering on sweep 455 kHz
 Input level 0.3 Vp-p/cm
 Output level 3 mV ~ 10 mV
2. Turn the cores (red and blue) of T6 and adjust so that U-curve will be at maximum amplitude and best symmetry.

ADJUSTMENT

3.7 MW/LW TRACKING ADJUSTMENT (KP-3800/E)

In case of MW

● Connection Diagram

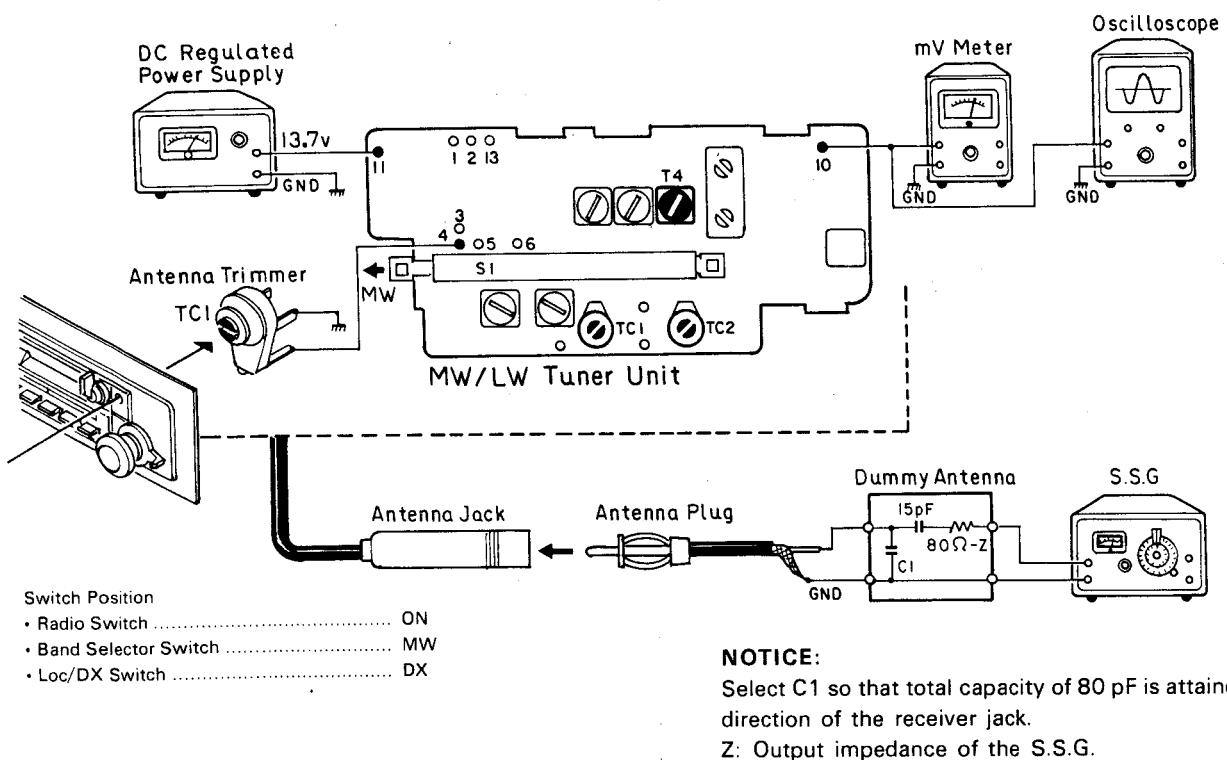


Fig. 12

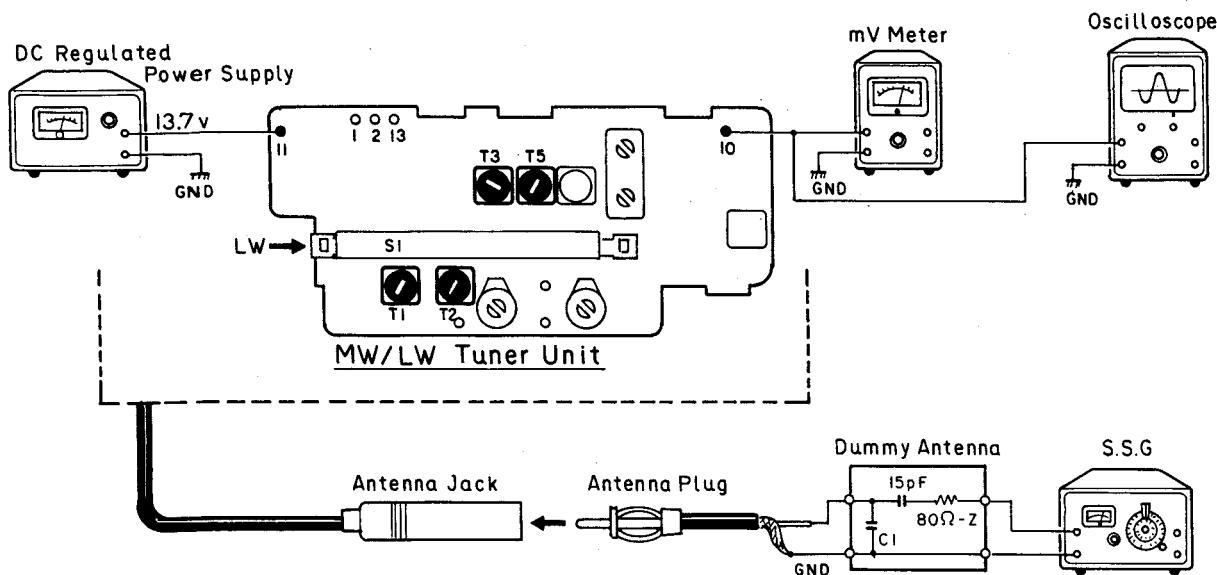
● To Adjust

SSG Frequency	Pointer Position	Adjustment Point	Note
1. 520 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Minimum	T4	520 kHz can be received
2. 1,660 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Maximum	TC2	1,660 kHz can be received
3. Repeat (1) and (2) alternately and adjust so that broadcast can be received at the frequency between 520 kHz and 1,660 kHz.			
4. 1,000 kHz (400 Hz, 30% modulation), output level 20 dB (μ V)	Tune to 1,000 kHz	TC1, antenna trimmer (TC1)	mV Meter at maximum

ADJUSTMENT

In case of LW

● Connection Diagram



Switch Position

- Radio Switch ON
- Band Selector Switch LW
- Loc/DX Switch DX

NOTICE:

Select C1 so that total capacity of 80 pF is attained from the direction of the receiver jack.

Z: Output impedance of the S.S.G.

Fig. 13

● To Adjust

SSG Frequency	Pointer Position	Adjustment Point	Note
1. 140 kHz (400 Hz, 30% modulation), output level 40 dB (μ V)	Minimum	T5	140 kHz can be received
2. 295 kHz (400 Hz, 30% modulation), output level 40 dB (μ V)	Maximum	T3	295 kHz can be received
3. Repeat (1) and (2) alternately and adjust so that broadcast can be received at the frequency between 140 kHz and 295 kHz.			
4. 215 kHz (400 Hz, 30% modulation), output level 40 dB (μ V)	Tune to 215 kHz	T1, T2	mV Meter at maximum

ADJUSTMENT

3.8 PNS ADJUSTMENT

● Connection Diagram

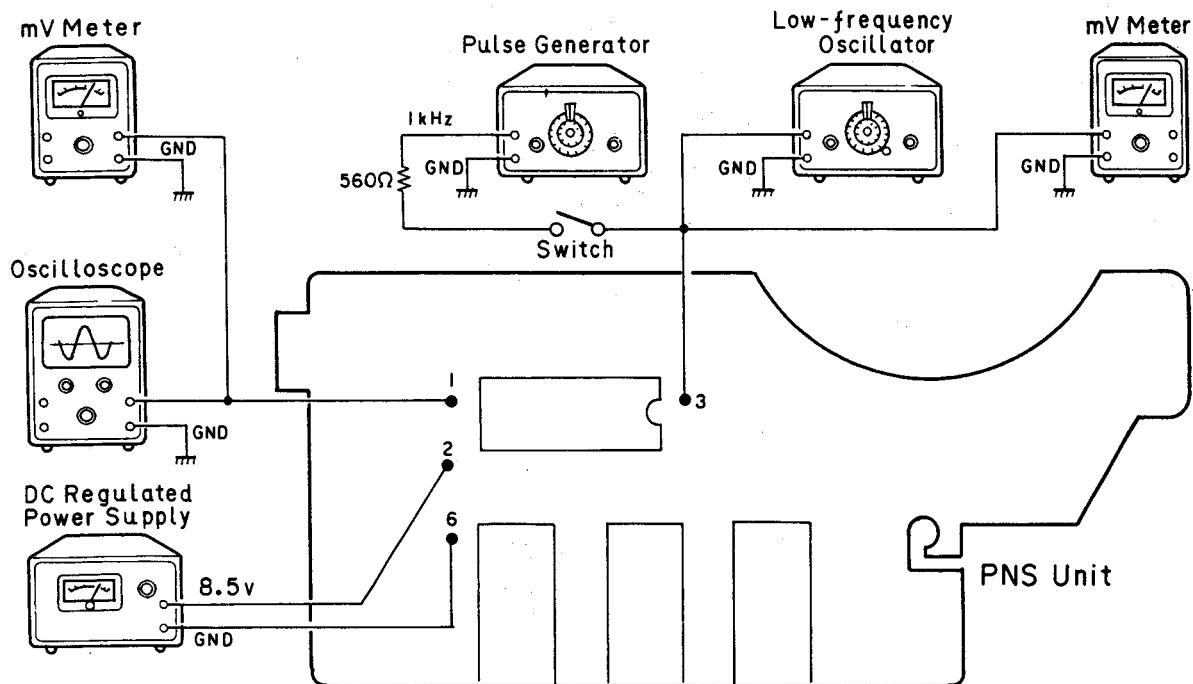


Fig. 14

Switch Position

- Radio Switch ON
- Band Selector Switch FM
- Mono Switch OFF (Stereo)

● Items to be Confirmed

1. Set the AF signal generator output frequency to 1 kHz and its output level to 300 mV, then couple the output to Terminal-1 on the where.
2. Use a mV Meter to check the output voltage on Terminal-2 for $270 \text{ mV}^{+33}_{-29} \text{ mV}$.
3. Supplying the 50 kHz signal through the low-frequency oscillator, make sure that the frequency response is more than 50 kHz at 1 kHz for the -4.5 dB. (See Fig. 15.)
4. Turn on the switch, set the pulse generator output frequency, level, and pulse width to 1 kHz, 100 mV, and $1\mu\text{sec}$ respectively. Set the AF signal generator output to 1 kHz and 300 mV.
5. Use an oscilloscope to check that the pulse noise component is eliminated from the signal. (See Fig. 16.)

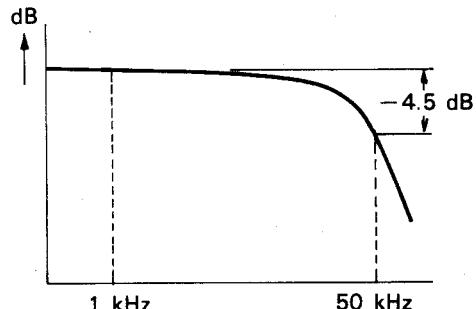


Fig. 15

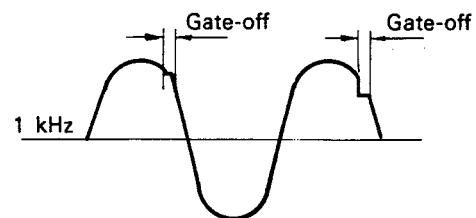


Fig. 16

4. DIAL STRINGING

1. To start dial stringing, remove the cassette mechanism unit at first.
2. Turn the tuning shaft fully to the left (so the core of front end fills up the inside).
3. Take 50 cm length of string (19-5/8 in), and tie it securely to the spring as shown in Fig. 17-1.
4. When dial stringing, follow the numerical sequence and operate securely as there is no looseness on the way.

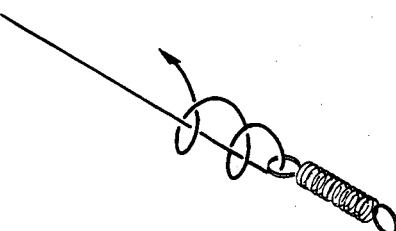


Fig. 17-1

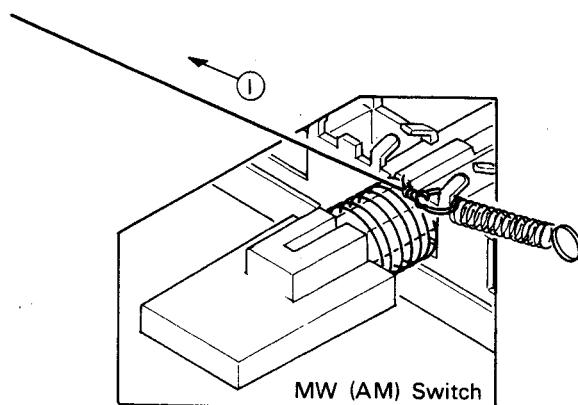


Fig. 17-2

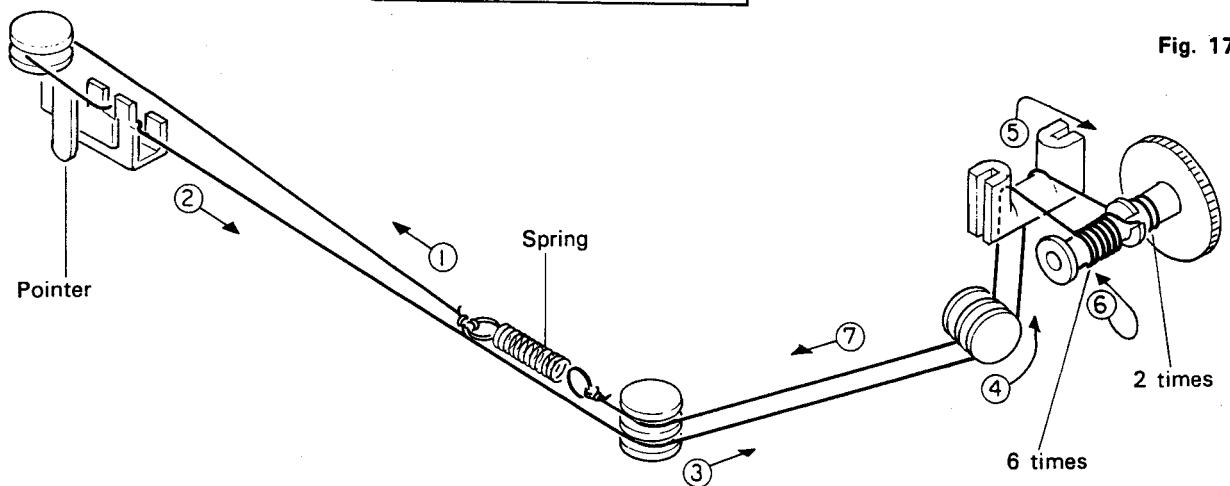
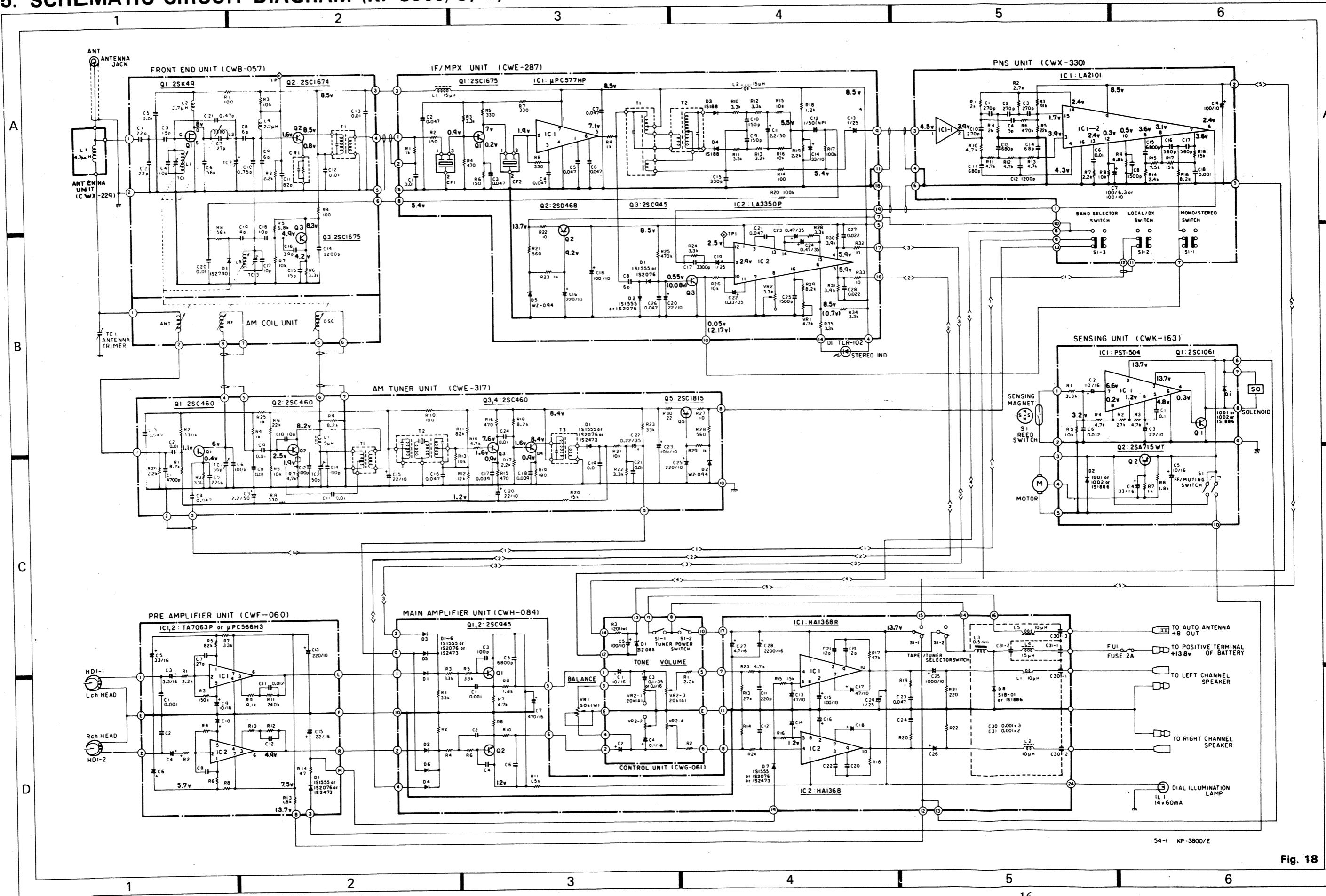


Fig. 17-3

5. SCHEMATIC CIRCUIT DIAGRAM (KP-3500/U, E)



6. SCHEMATIC CIRCUIT DIAGRAM (KP-3800/E)

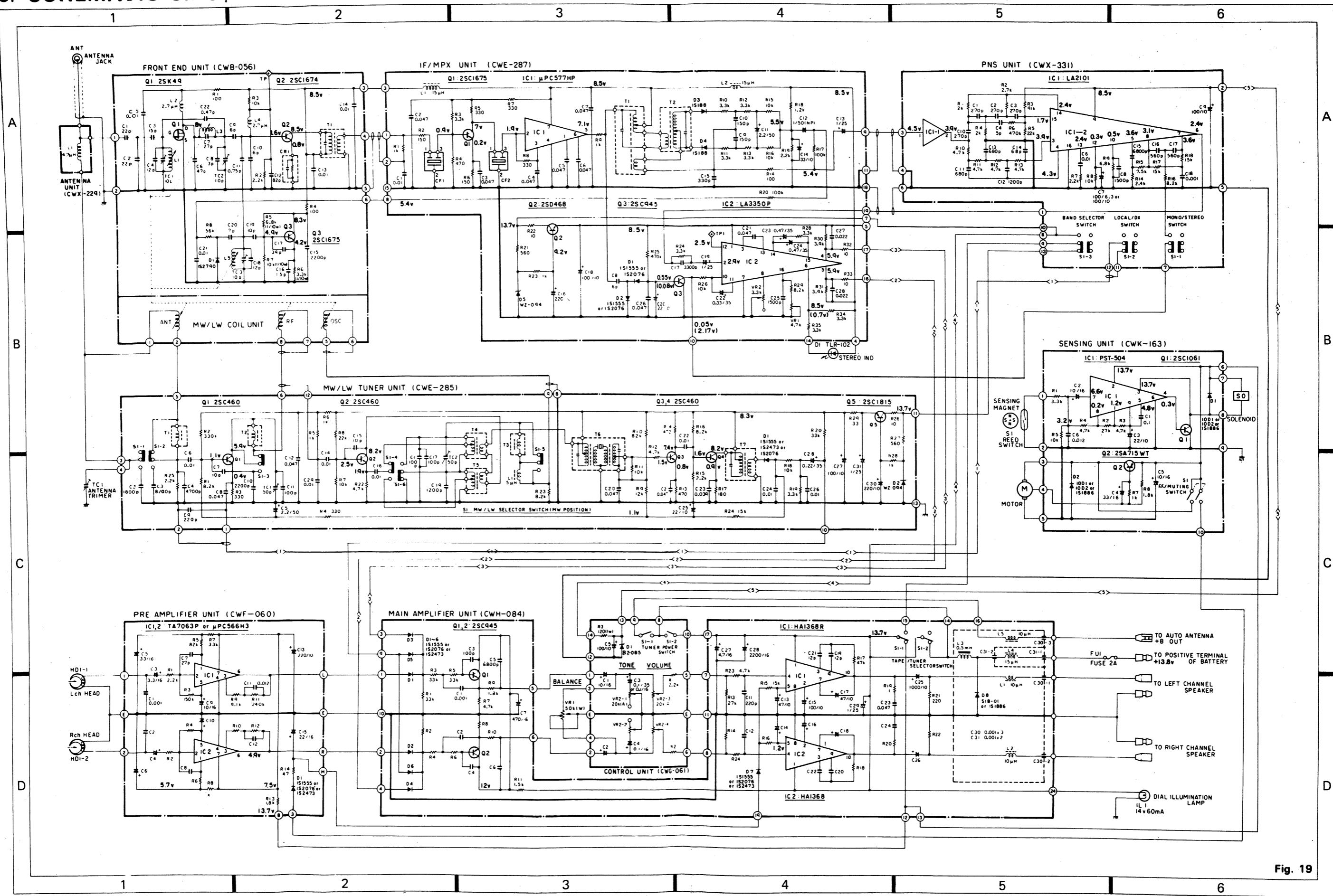
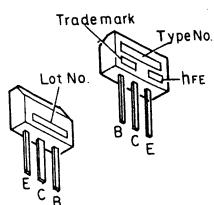


Fig. 19

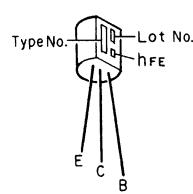
SCHEMATIC CIRCUIT DIAGRAM

● IC's and Transistors

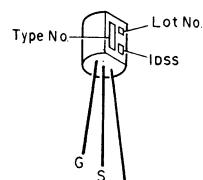
2SC460



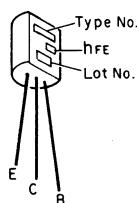
2SC1815
2SC1674
2SC1675
2SC945



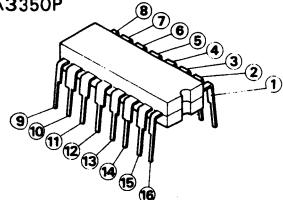
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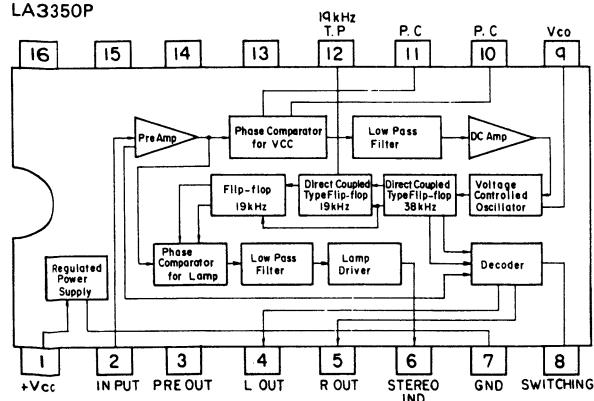
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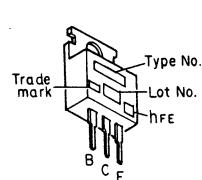
LA2101
LA3350P



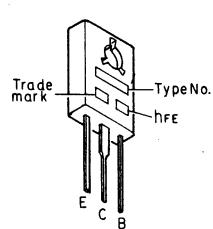
LA3350P



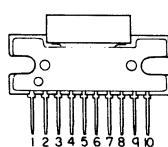
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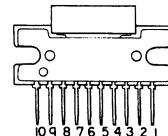
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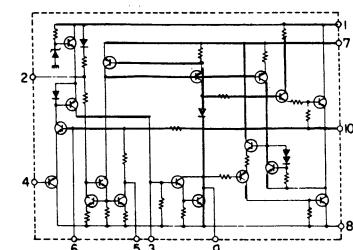
HA1368



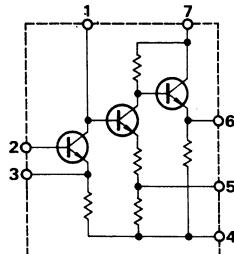
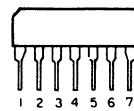
HA1368R



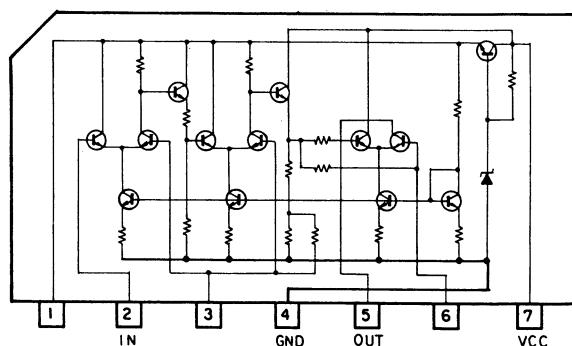
HA1368
HA1368R



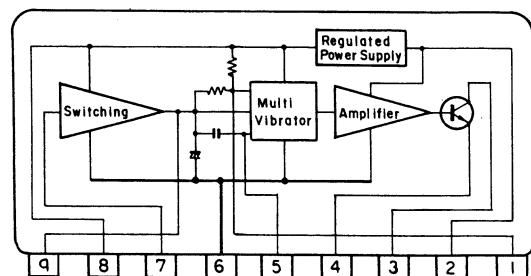
TA7063P
 μ PC566H3



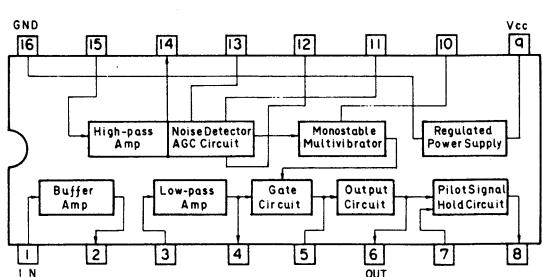
μ PC577HP



PST-504



LA2101



7. AM TUNER UNIT (CWE-317) (KP-3500/U, E)

● Parts Connection

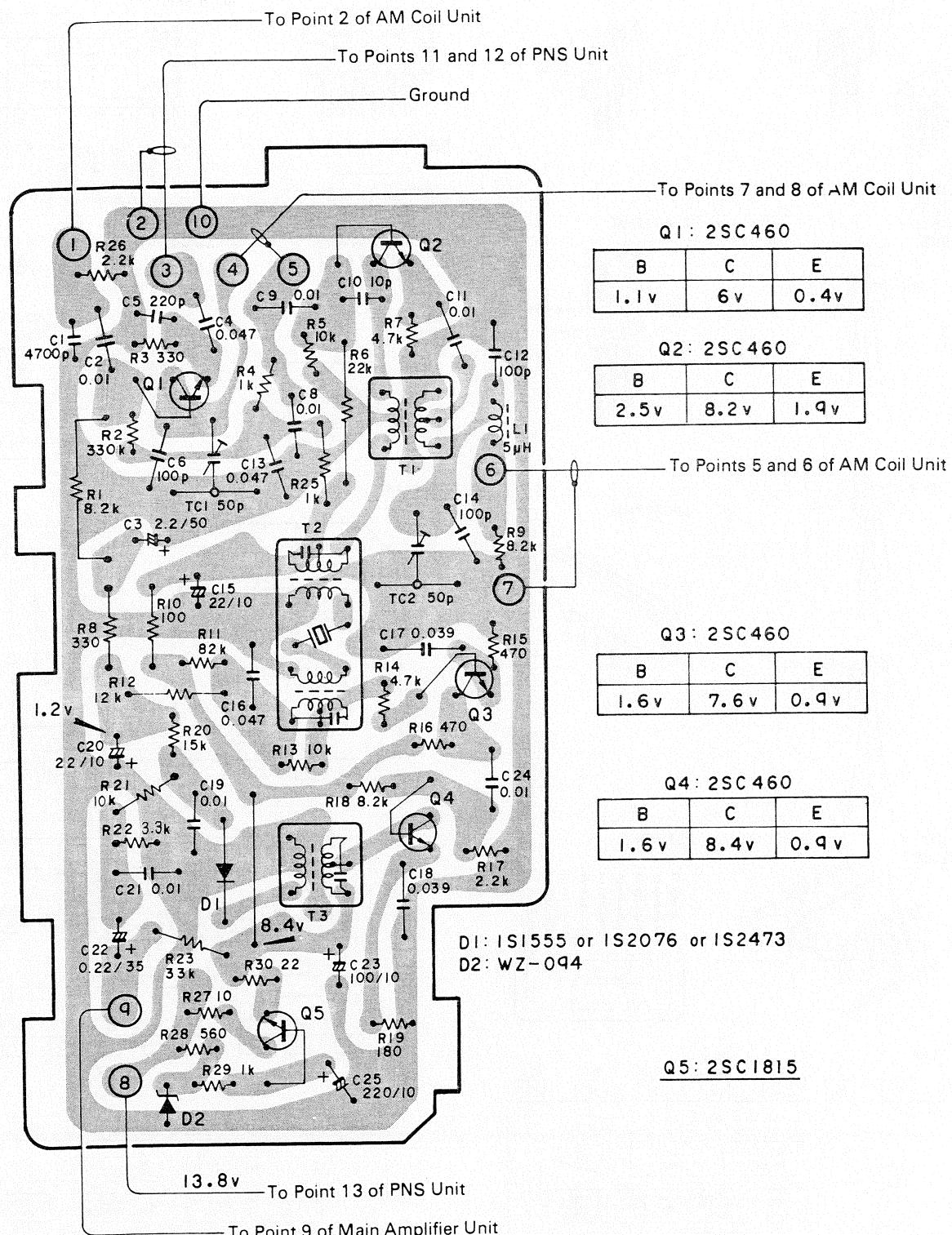


Fig. 20

AM TUNER UNIT (CWE-317) (KP-3500/U, E)

● Parts List

NOTE:

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56×10^1	561	RD1/4PS	561 J
47kΩ	47×10^3	473	RD1/4PS	473 J
0.5Ω	0R5		RN2H	0R5 K
1Ω	O10		RS1P	O10 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	5.62×10^3	RN1/4SR	5621 F
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MISCELLANEOUS

Part No.	Symbol & Description	
2SC460-A	Q1, Q3, Q4	
2SC460-B	Q2	
2SC1815	Q5	
1S1555 or 1S2473 or	D1	
1S2076		
WZ-094	U2	
CTE-002	T1	Coil
CTE-037	T2	IF Transformer
CTE-038	T3	IF Transformer
CTF-005	L1	Ferri-Inductor, 5μH
C43-610	TC1, TC2	Ceramic Trimmer, 50pF
CTX-022		Beaded Core

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD1/8PS□□□J	R1, R6, R22
RD1/8VS□□□J	R2 – R5, R7 – R21, R23, R25 – R30
VACANT	R24

CAPACITORS

Part No.	Symbol & Description
CQMA 472J 50	C1
CCG-019	C2, C9, C11, C24 0.01μF/50V
CEA 2R2P 50	C3
CKDYF 473Z 25	C4, C13, C16
CKDYB 221K 50	C5
CCDSL 101K 50	C6
VACANT	C7
CQMA 103J 50	C8
CCDSL 100F 50	C10
CCDLH 101K 50L	C12, C14
CEA 220P 10	C15, C20
CQMA 393M 50	C17, C18
CQMA 103K 50	C19, C21
CSZA R22M 35	C22
CEA 101P 10	C23
CEA 221M 10L	C25

8. MW/LW TUNER UNIT (CWE-285) (KP-3800/E)

● Parts Connection

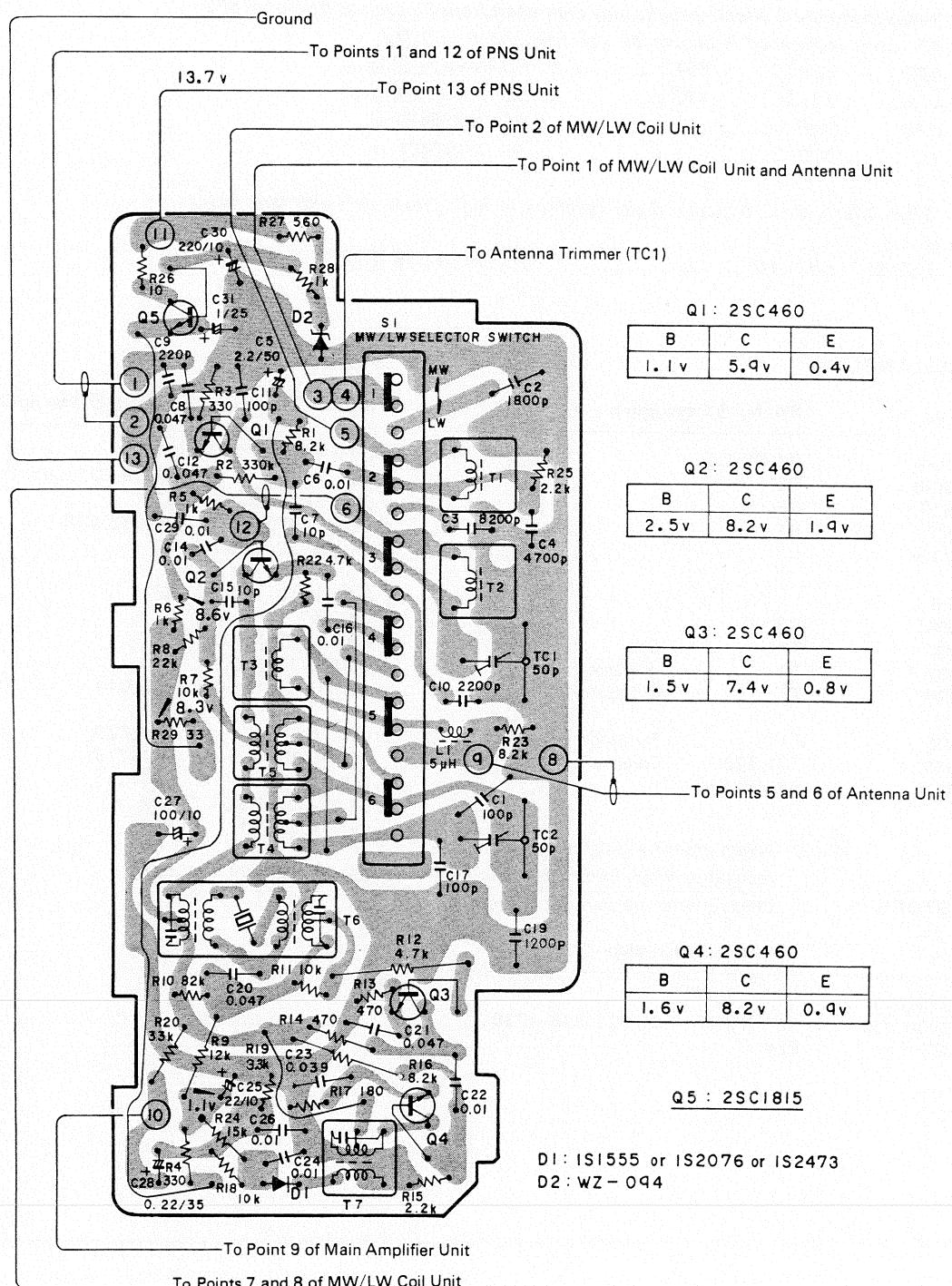


Fig. 21

MW/LW TUNER UNIT (CWE-285) (KP-3800/E)

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description	
2SC460-A	Q1, Q3, Q4	
2SC460-B	Q2	
2SC1815	Q5	
1S1555 or 1S2473 or	D1	
1S2076		
WZ-094	D2	
CTE-058	T1, T2	Coil
CTE-025	T3	Coil
CTE-002	T4	Coil
CTE-024	T5	Coil
CTE-037	T6	IF Transformer
CTE-038	T7	IF Transformer
CTF-005	L1	Ferri-Inductor, 5 μ H
CSH-041	S1	Switch
C43-610	TC1, TC2	Ceramic Trimmer, 50pF

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD1/8VS□□□J	R1—R11, R13—R17, R19, R20, R22—R29
RD1/8PS□□□J VACANT	R12, R18 R21

CAPACITORS

Part No.	Symbol & Description
CCDLH 101K 50 L	C1, C17
CQSAH 182J 50	C2
CQMA 822J 50	C3
CQMA 472J 50	C4
CEA 2R2P 50	C5
CCG-019	C6, C14, C16, C22, C29 0.01 μ F/50V
CCDSL 100F 50	C7, C15
CKDYF 473Z 25	C8, C12, C20, C21
CKDYB 221K 50	C9
CQMA 222J 50	C10
CCDSL 101K 50	C11
VACANT	C13, C18
CQSAH 122J 50	C19
CQMA 393M 50	C23
CQMA 103K 50	C24, C26
CEA 220P 10	C25
CEA 101P 10	C27
CSZA R22M 35	C28
CEA 221M 10 L	C30
CSZA 1R0M 25	C31

9. CONTROL UNIT (CWG-061)

● Parts Connection

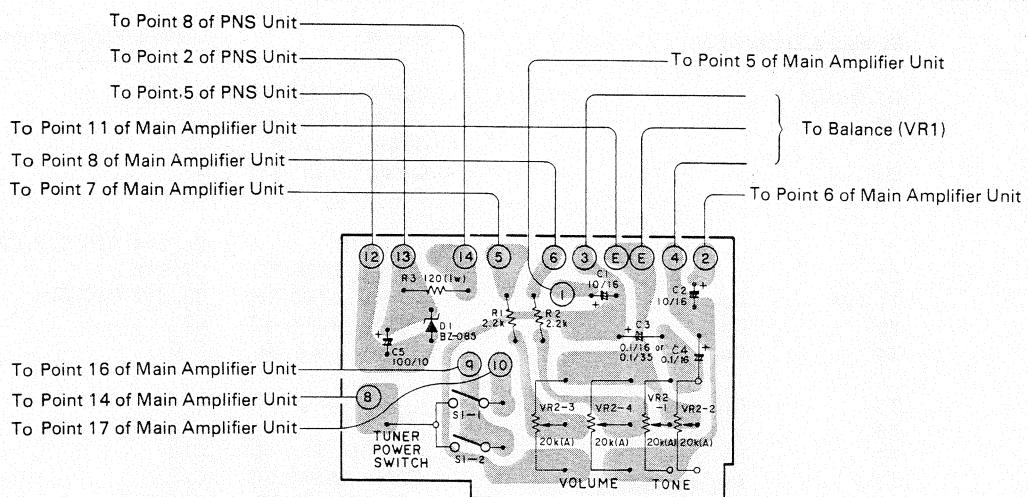


Fig. 22

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description	
BZ-085	D1	
CCS-212	VR2	Volume/Switch
<i>Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.</i>		
RESISTORS	Part No.	
RD1/8VS□□□J	R1, R2	
RS1P□□□J	R3	

CAPACITORS

Part No.	Symbol & Description
CEA 100P 16	C1, C2
CSYA 0R1M 16 or	C3
CSZA 0R1M 35	
CSYA 0R1M 16	C4
CEA 101M 10 L	C5

10. PNS UNIT(CWX-330)(KP-3500/U, E),(CWX-331)(KP-3800/E)

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description	
LA2101	IC1	
LSG-087	S1	Switch (KP-3800/E)
CSG-088	S1	Switch (KP-3500/U, E)
<i>Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.</i>		
RESISTORS	Part No.	
RD1/8PS□□□J	R1—R18	

CAPACITORS

Part No.	Symbol & Description
CKDSA 271J 50	C1—C3, C10
CCDSL 050D 50	C4
VACANT	C5
CQMA 103K 50	C6
CEA 101M 10 L or	C7
CEA 101M 6R3 L	
CQMA 152J 50	C8
CEA 101M 10 L	C9
CKDSA 681J 50	C11, C13
CQMA 122J 50	C12
CKDSA 680J 50	C14
CQMA 682K 50	C15
CKDSA 561J 50	C16, C17
CKDSA 102J 50	C18

PNS UNIT (CWX-330) (KP-3500/U, E), (CWX-331) (KP-3800/E)

● Parts Connection

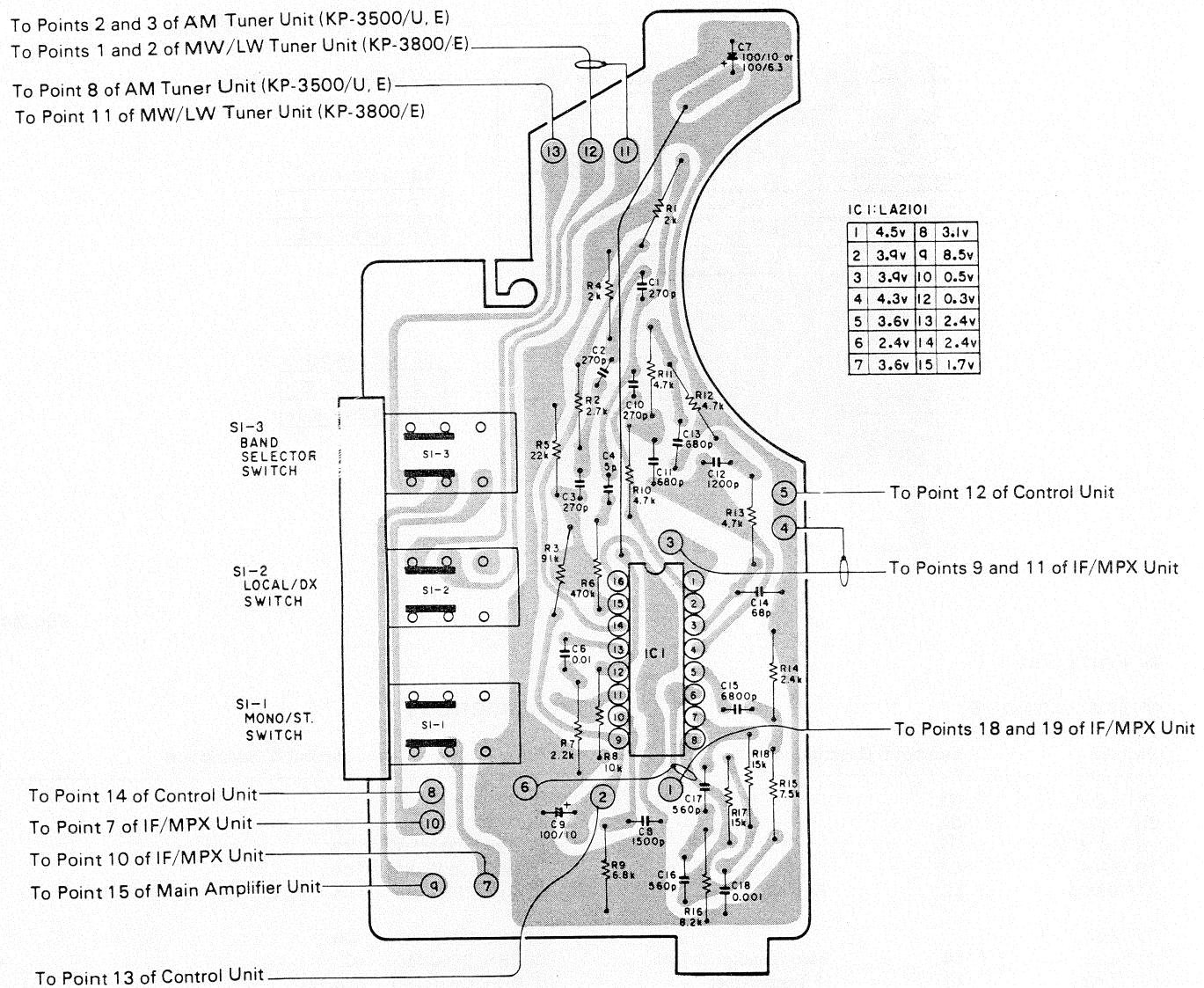


Fig. 23

11. FRONT END UNIT (CWB-057) (KP-3500/U, E)

● Parts Connection

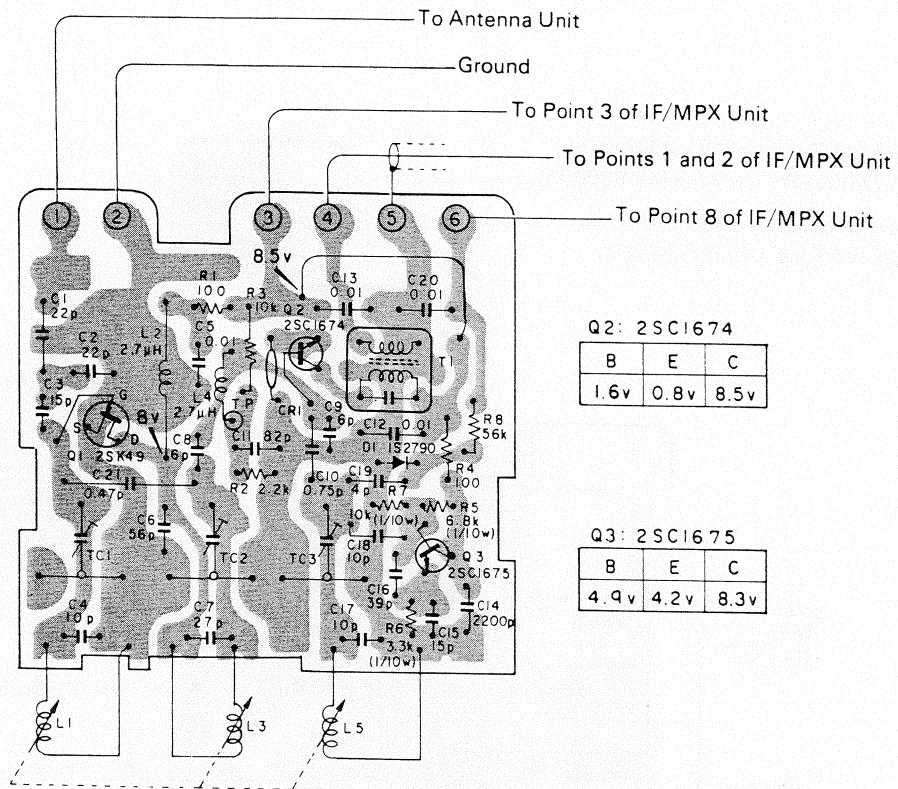


Fig. 24

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description
2SK49-H2	Q1
2SC1674	Q2
2SC1675-M	Q3
1S2790	D1
CTF-039 or	L2
CTF-065	
CTF-039	L4
CTC-043	T1
CCG-008	TC1—TC3
CCX-001	CR1

RESISTORS

Part No.	Symbol & Description
RD1/8VS□□□J	R1—R4, R8
RD1/10VS□□□J	R5—R7

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

CAPACITORS

Part No.	Symbol & Description
CCDSL 220K 500	C1
CCDSL 220J 50	C2
CCDSL 150J 50	C3
CCDRH 100F 50	C4
CKDYF 103Z 25	C5, C13, C20
CCDSL 560J 50	C6
CCDRH 270J 50	C7
CCDCH 060D 50	C8, C9
CGB R75K 500	C10
CCDSL 820J 50	C11
CKDYD 103M 50	C12
CKDYB 222K 50	C14
CCDTH 150J 50	C15
CCDTH 390J 50	C16
CCDTH 100F 50	C17, C18
CCDCH 040D 50	C19
CGB R47K 500	C21

12. FRONT END UNIT (CWB-056) (KP-3800/E)

● Parts Connection

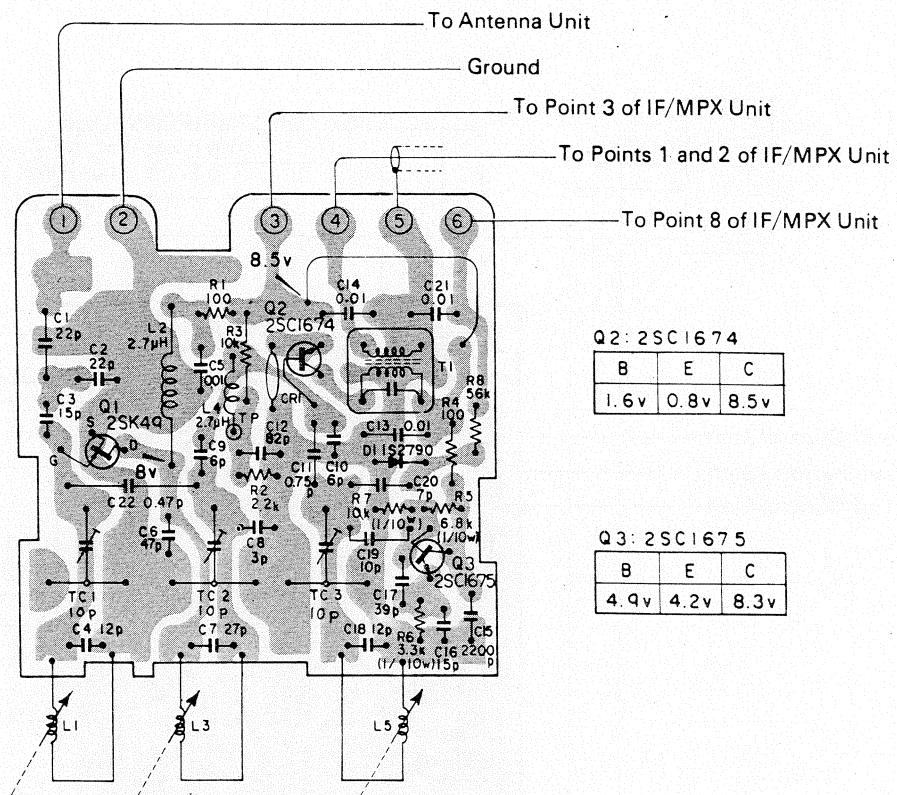


Fig. 25

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description	
2SK49-H1	Q1	
2SC1674	Q2	
2SC1675-M	Q3	
1S2790	D1	
CTF-039 or	L2	Ferri-Inductor, 2.7μH
CTF-065		
CTF-039	L4	Ferri-Inductor, 2.7μH
CTC-043	T1	IF Transformer
CCG-008	TC1—TC3	Ceramic Trimmer, 10pF
CCX-001	CR1	Multiple Components

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Part No.	Symbol & Description
RD1/8VS□□□J	R1—R4, R8
RD1/10VS□□□J	R5—R7

CAPACITORS

Part No.	Symbol & Description
CCDSL 220K 50	C1
CCDSL 220J 50	C2
CCDSL 150J 50	C3
CCDPH 120J 50	C4
CKDYF 103Z 25	C5, C14, C21
CCDSL 470J 50	C6
CCDRH 270J 50	C7
CCDCH 030C 50	C8
CCDCH 060D 50	C9, 10
CGB R27K 500	C11
CCDSL 820J 50	C12
CKDYD 103M 50	C13
CKDYB 222K 50	C15
CCDTH 150J 50	C16
CCDTH 390J 50	C17
CCDRH 120J 50	C18
CCDTH 100F 50	C19
CCDCH 070D 50	C20
CGB R47K 500	C22

13. MAIN AMPLIFIER UNIT (CWH-084)

● Parts Connection

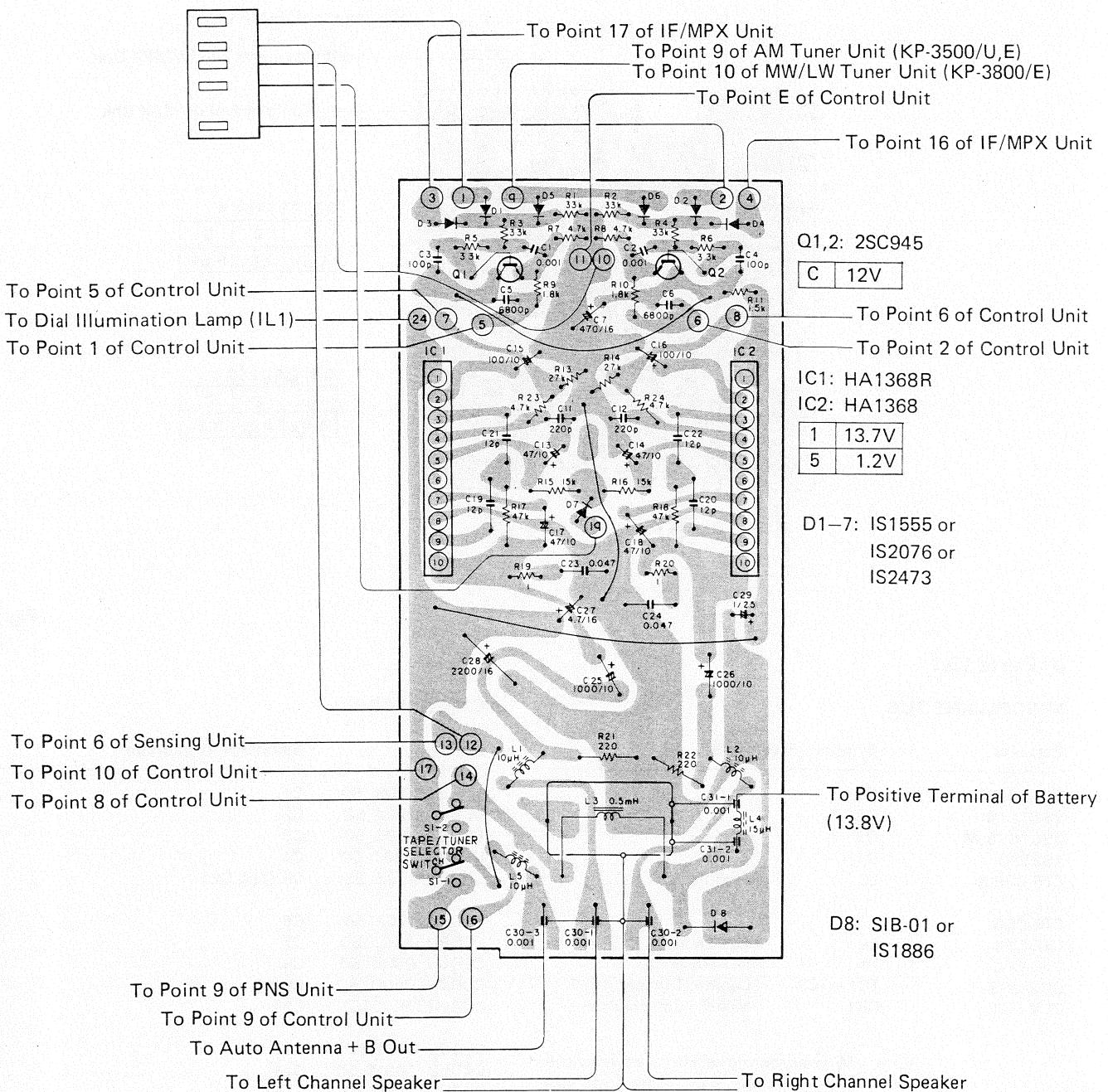


Fig. 26

MAIN AMPLIFIER UNIT (CWH-084)

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description
HA1368R	IC1
HA1368	IC2
2SC945	Q1, Q2
1S1555 or 1S2076 or	D1—D7
1S2473	
SIB-01 or	D8
1S1886	
CTH-035	L1, L2, L5
CTH-018	L3
CTF-003	L4
CSL-003	S1

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD1/4VS□□□J	R1—R11, R13—R24
VACANT	R12

CAPACITORS

Part No.	Symbol & Description
CQMA 102J 50	C1, C2
CKDYB 101K 50	C3, C4
CQMA 682J 50	C5, C6
CEA 471P 16 L	C7
VACANT	C8—C10
CKDYB 221K 50	C11, C12
CEA 470P 10	C13, C14, C17, C18
CEA 101P 10	C15, C16
CCPVSL 120J 50	C19—C22
CQMA 473K 50	C23, C24
CCH-022	C25, C26 1000μF/10V
CSZA 4R7M 16	C27
CCH-032	C28
CSZA 010M 25	C29
CCL-050	C30 Feed through Cap., 0.001μF × 3
CCL-051	C31 Feed through Cap., 0.001μF × 2

14. PRE AMPLIFIER UNIT (CWF-060)

● Parts Connection

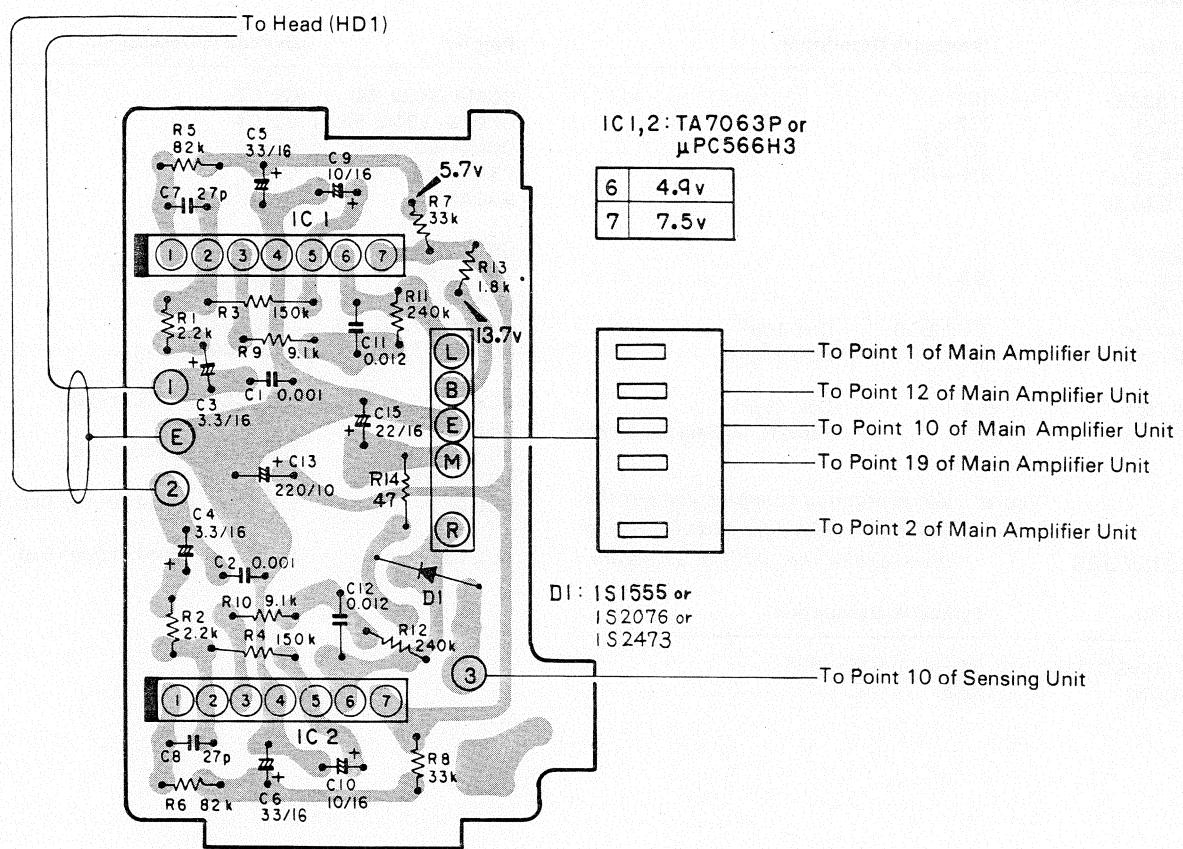


Fig. 27

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description
TA7063P or μ PC566H3	IC1, IC2
1S1555 or 1S2076 or 1S2473	D1

RESISTORS Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Part No.	Symbol & Description
RD1/4VS□□□J	R1 - R14

CAPACITORS

Part No.	Symbol & Description
CQMA 102K 50	C1, C2
CSZA 3R3M 16	C3, C4
CEA 330P 16 L	C5, C6
CCDSL 270K 50	C7, C8
CEA 100P 16	C9, C10
CQMA 123K 50	C11, C12
CCH-028	C13
VACANT	220 μ F/10V
CEA 220P 16	C14
	C15

15. SENSING UNIT (CWK-163)

● Parts Connection

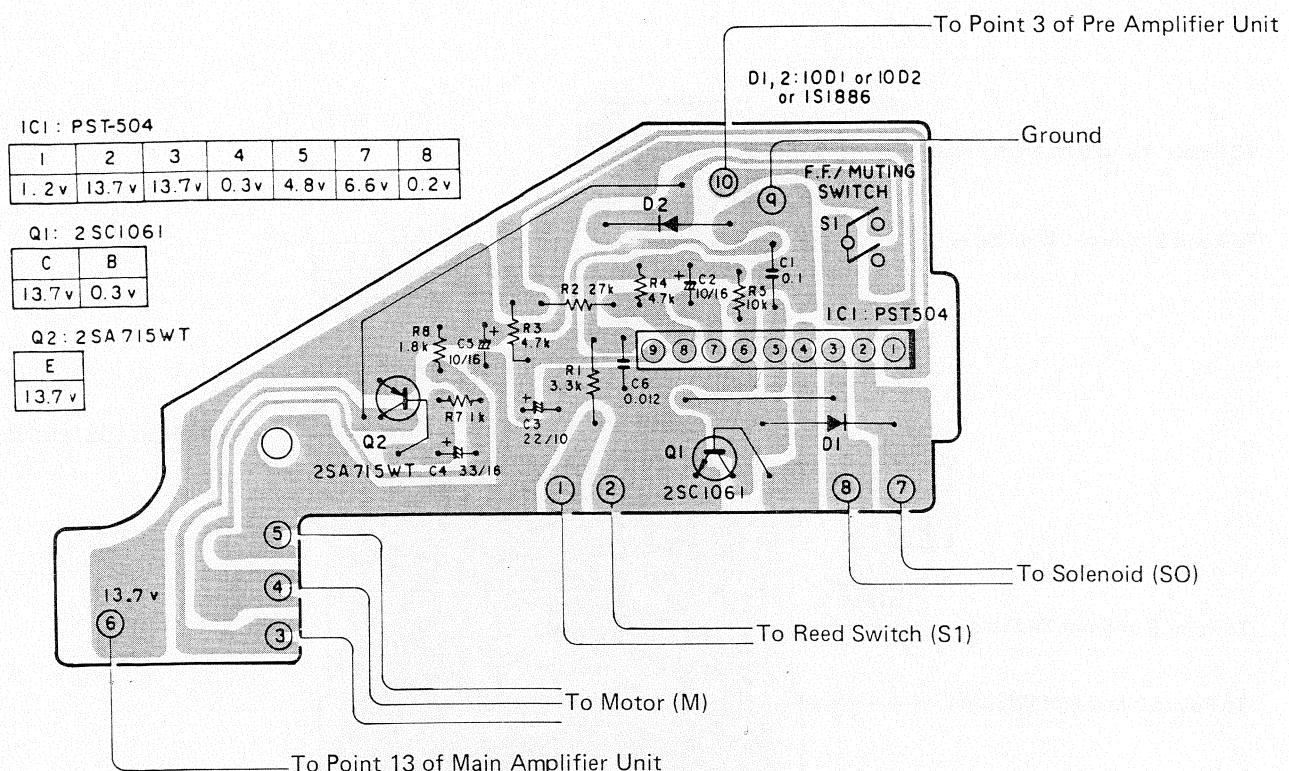


Fig. 28

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description
PST-504	IC1
2SC1061	Q1
2SA715WT	Q2
10D1 or 10D2 or	D1, D2
1S1886	S1 F.F./Muting Switch
CSN-O47	

CAPACITORS

Part No.	Symbol & Description
CCG-005	C1 0.1 μ F/12V
CEA 100P 16	C2, C5
CEA 220P 10	C3
CEA 330P 16	C4
CQMA 123M 50	C6

RESISTORS

Part No.	Symbol & Description
RD1/4VS□□□J	R1 — R5, R7, R8
VACANT	R6

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

16. IF/MPX UNIT (CWE-287)

● Parts Connection

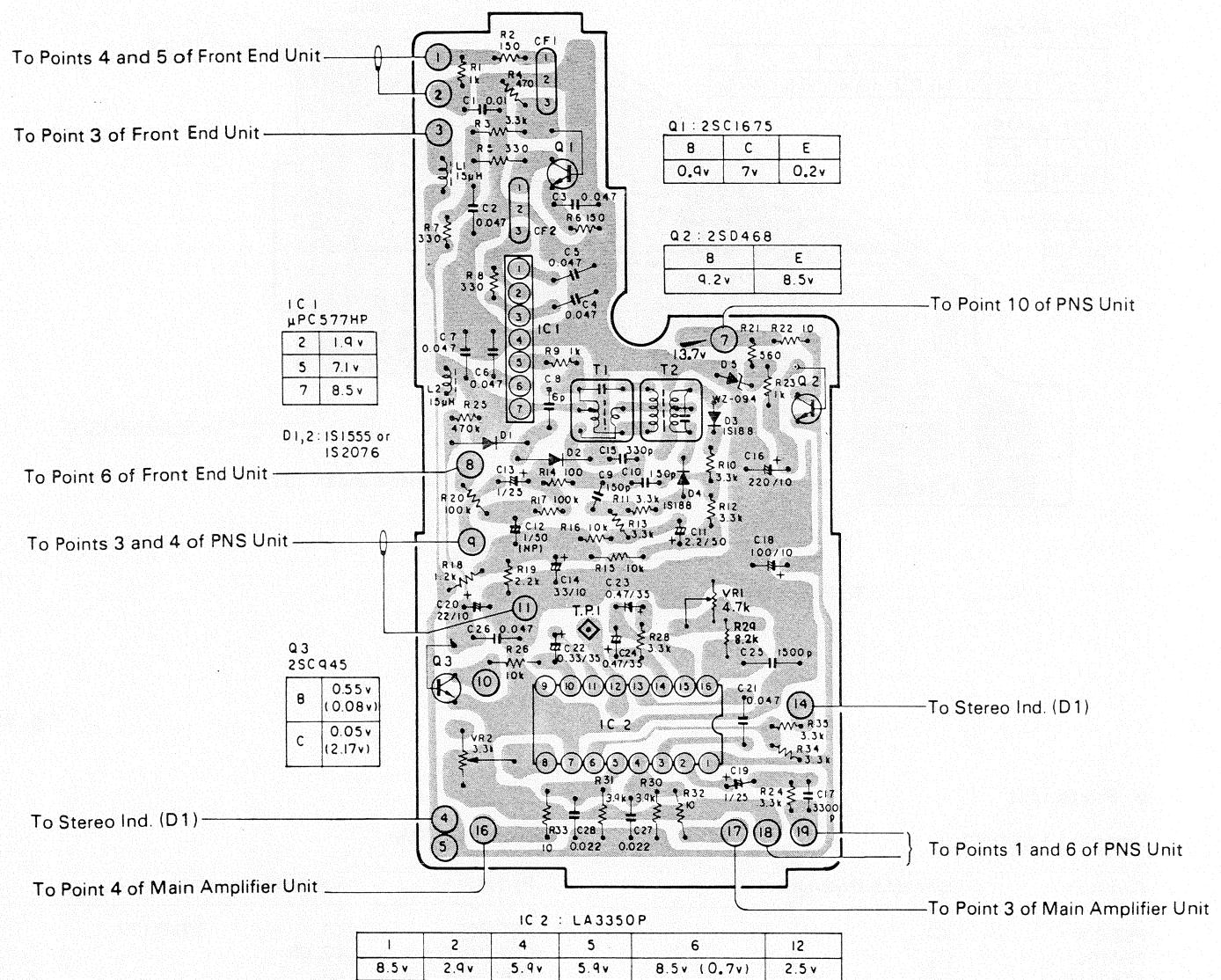


Fig. 29

IF/MPX UNIT (CWE-287)

● Parts List

MISCELLANEOUS

Part No.	Symbol & Description
μ PC577HP	IC1
LA3350P	IC2
2SC1675-M	Q1
2SD468	Q2
2SC945	Q3
1S1555 or 1S2076	D1, D2
1S188-FM-1	D3, D4
WZ-094	D5
CTF-016	L1, L2
CTC-015	T1
CTC-012	T2
C92-618	VR1
CCP-O38	VR2
	CF1, CF2

CAPACITORS

Part No.	Symbol & Description
CKDYF 103Z 25	C1
CKDYF 473Z 25	C2-C7, C26
CCDSL 060D 50	C8
CKDYB 151K 50	C9, C10
CEA 2R2P 50	C11
CEA 010M 50 NP	C12
CSZA 010M 25	C13, C19
CEA 330P 10	C14
CKDYB 331K 50	C15
CCH-028	C16
	220 μ F/10V
CQMA 332J 50	C17
CEA 101P 10	C18
CEA 220P 10	C20
CQMA 473K 50	C21
CSZA R33M 35	C22
CSZA R47M 35	C23, C24
CQSA 152J 50	C25
CQMA 223K 50	C27, C28

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD1/8VS□□□J	R1-R13, R16-R26, R28-R35
RD1/4PS□□□J	R14, R15
VACANT	R27

17. MISCELLANEOUS PARTS LIST

Part No.	Symbol & Description	
CSN-055	S1	Reed Switch
CCS-123	VR1	Volume (Balance)
TLR-102	D1	Stereo Ind.
CEL-065	IL1	Lamp, 14V 60mA
E21-005	FU1	Fuse 2A
CPB-032 or CPB-034	HD1	Head
CXP-021	SO	Solenoid
CXM-046	M	Motor
CCG-022	TC1	Antenna Trimmer
CDH-026	ANT	Antenna Connector
CTH-025	L1	Coil, 4.7 μ H

18. CABINET EXPLODED VIEW

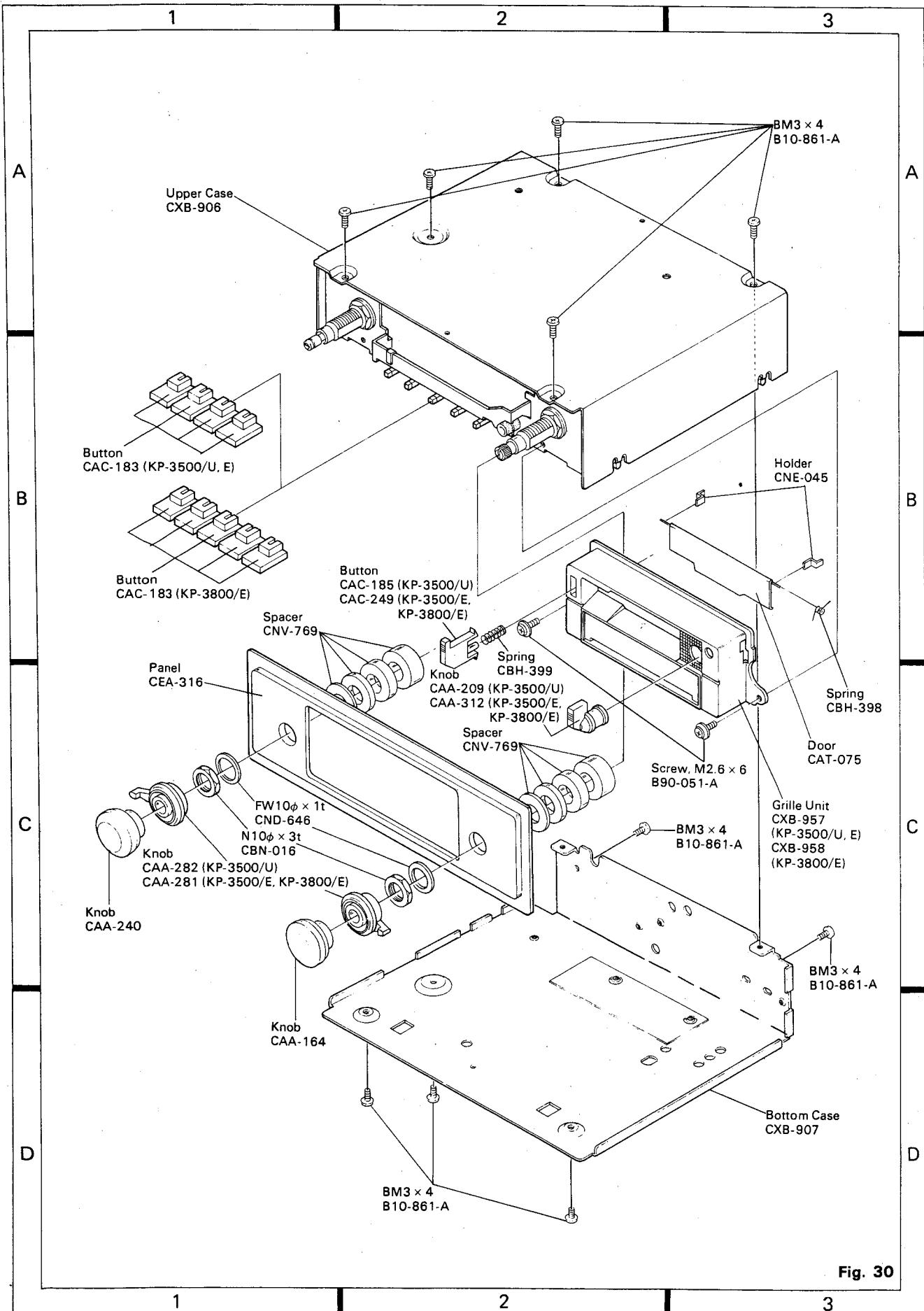


Fig. 30

19. CHASSIS EXPLODED VIEW

NOTICE: Parts whose parts numbers are omitted are subject to being not supplied.

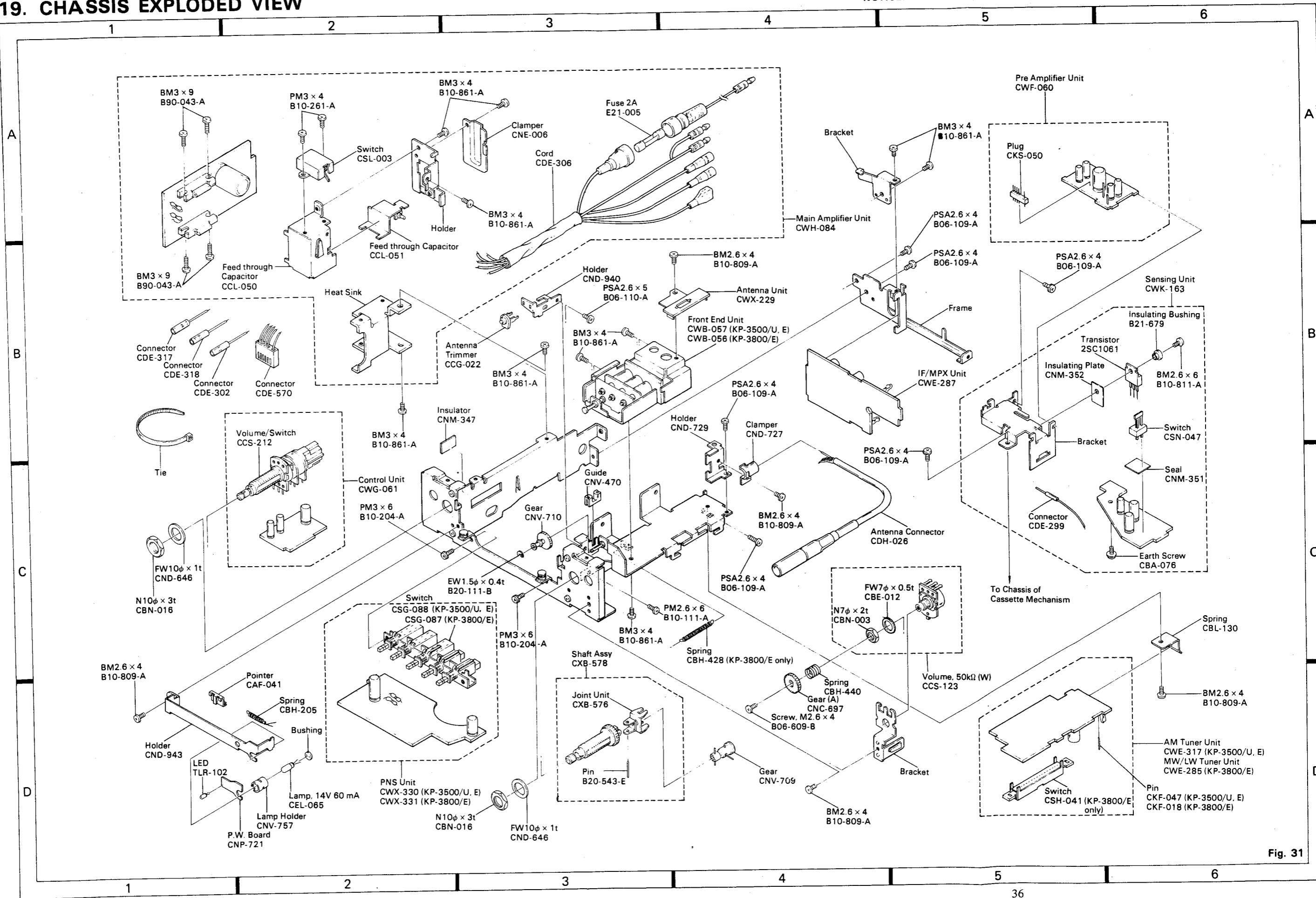


Fig. 31

20. PACKING METHOD

NOTICE: Parts whose parts numbers are omitted are subject to being not supplied.

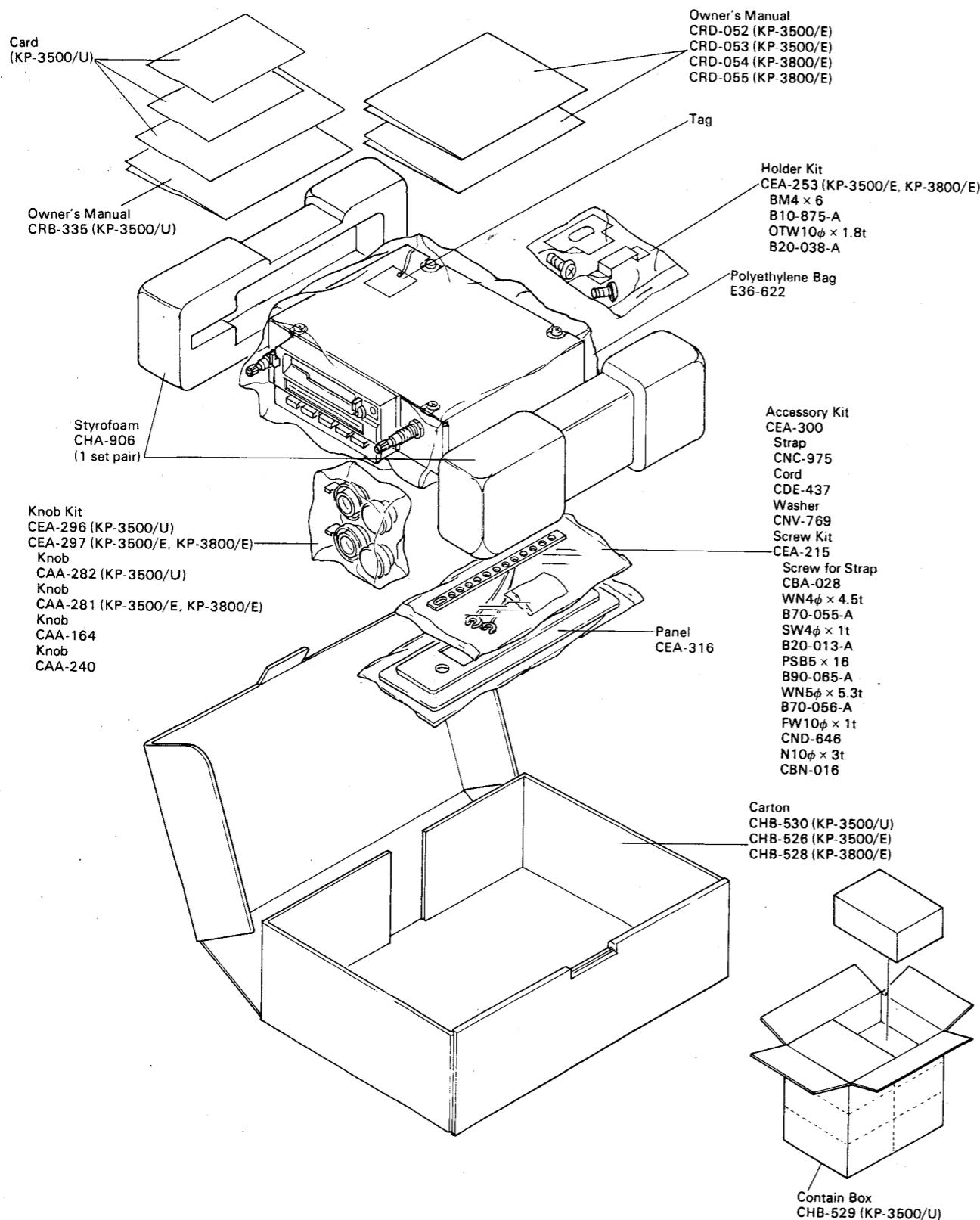


Fig. 32



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Versandanschrift: Pioneer-Melchers GmbH, Flughafendamm 9, 2800 Bremen 1

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Werkstatt

0421 / 31 69 279

Ersatzteile

0421 / 31 69 277

Reparaturen
Reparaturhilfen

Ersatzteilbestellungen
Technische Unterlagen

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